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ACCIDENT INVESTIGATION

NATO Committee on the Challenges of Modern Society

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COMMITTEE ON THE CHALLENGES OF MODERN SOCIETY
CCMS REPORT NO. 26

PROJET SUR L'ENQUÊTE D'ACCIDENTS

COMITÉ SUR LES DÉFIS DE LA SOCIÉTÉ MODERNE
RAPPORT Nº 26 DU CDSM

REPRODUCED BY
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U.S. Department of Transportation
National Highway Traffic Safety Administration

PREFACE

Committee on the Challenges of Modern Society

On April 10, 1969 – less than four months after taking office – President Nixon called for NATO to take action on environmental problems, declaring

> ". . . (NATO) needs a social dimension, to deal with our concern for the quality of life in this final third of the twentieth century . . . the industrial nations share no challenge more urgent than that of bringing 20th century man and his environment to terms with one another . . ."

In November 1969, NATO accepted the President's proposal, established the Committee on the Challenges of Modern Society – CCMS – and directed it to improve in every practical way the exchange of views and experience among the allied countries in the task of creating a better environment for their societies, and to consider specific problems with the deliberate objective of stimulating action by member governments.

To carry out its mandate, CCMS has developed a novel approach under which one NATO member as "Pilot" assumes the responsibility to undertake and complete a program. With one-nation leadership, programs move ahead quicker than under the working committee approach which is characteristic of most international efforts. Also, the need for an international secretariat is substantially reduced.

Road Safety Pilot Study

At the first CCMS meeting in late Fall 1969, the U.S. Representative to CCMS proposed all aspects of road safety – vehicle, highway, driver – as a CCMS effort which the U.S. would lead. NATO accepted. The National Highway Traffic Safety Administration of the Department of Transportation conducted the Study for the U.S.

The Road Safety Pilot Study was divided into seven projects, each led by a NATO ally: *Pedestrian Safety* – Belgium; *Alcohol and Highway Safety* – Canada; *Motor Vehicle Inspection* – Federal Republic of Germany; *Identification and Correction of Road Hazards* – France; *Emergency Medical Services* – Italy; *Accident Investigation* – The Netherlands; and *Experimental Safety Vehicle* – United States. Each of these efforts was a self-contained project in its own right and apart from overall coordination by the U.S. as Pilot Country has been directed by the NATO country indicated. The other allies have participated in those projects of major interest to them and such participation is noted in the final report for each of the seven projects. The conclusions and recommendations contained in these project reports are in turn discussed in the overall Pilot Study report.

The basic purpose of CCMS is to stimulate government action – not research per se. While more research is needed in all aspects of road safety, the CCMS premise is that much is already known in one country which other countries might utilize or adapt to their unique problems. Thus, an overriding goal of all of the road safety projects has been to organize the extant knowledge on road safety programs of proven effectiveness in a manner that will facilitate putting these programs into practice where they are not now in operation.

Accident Investigation

The success of all road safety programs is fundamentally dependent upon reliable data which can be obtained only by research-oriented, in-depth investigations of actual roadway crashes. The need for research-oriented accident investigation data has been recognized internationally. Repeatedly in the papers presented at the Fifth International Experimental Safety Vehicle Conference held in Kyoto, Japan in March 1973, concern was expressed over the lack of such information.

Although a number of research-oriented accident investigation programs are being conducted in various countries, there are no consistent internationally coordinated research efforts with widely disseminated findings. Some of the data generated from studies have a modicum of international flavor. Most however, are generally used for provincial or nationalistic problem solving objectives. Much of the data are collected and analyzed from a parochial frame of reference, i.e., government for rulemaking and enforcement, and industry for product design. The natural insulation between governments and their industries, and within industries with their competitive natures, limits both the effectiveness and the distribution of research findings.

Developments in the import-export market for motor vehicles during the past five to ten years has extended the roadway safety problems beyond natural boundaries. International trade conducted by the world's automobile manufacturers causes the presence or absence of safety features, as well as the incidence of motor vehicle defects to be of great concern to the citizens of the importing country.

To a lesser extent, international travel via motor vehicles has had a similar effect. Citizens of one country can either drive across international boundaries or can rent or purchase a car in a foreign country and become involved in a road crash in that country. With this kind of international travel, the highway safety problems of one nation become the highway safety problems for citizens of other countries.

Thus, the problems of road safety are common to all countries where international trade and travel are practiced. Solutions to these problems at the international level require a cooperative effort on the part of all involved. Basic to that effort is the collection of research-oriented accident investigation data.

The CCMS Project on Accident Investigation sought to test the premise that each of several nations conducting a sample number of accident investigations in the same manner could produce aggregated data of substantial value to government officials and the automotive industry designers in all the countries involved. The potential benefits from such an approach are substantial assuming that efficient methods could be developed for its implementation. First, with data collected in ostensibly the same manner in several countries, relatively scarce and expensively obtained classes of data from different countries could be combined to produce larger sample sizes. Second, with the data coming from several locations, findings suggested by the results in one area could be compared with those obtained elsewhere. The conclusions would have greater generality, yielding broader composite insights into the phenomena at work in vehicle accident causation.

The Project History

The initial meeting of the Accident Investigation Project was convened by the United States as Pilot Country in Brussels, Belgium, June 1970. The Netherlands agreed to lead the project, and directed activities thereafter. In addition to the United States and the Netherlands, other nations represented at the meeting were: Belgium, Canada, France, the Federal Republic of Germany, Italy and the United Kingdom, with observers from Japan and Sweden.

Apart from an exchange of viewpoints on various substantive aspects of research accident investigations, the primary objective of the first meeting was to arrive at an overall plan for the project. The resulting consensus was that the project generally would develop in three phases:

Phase 1: Development of Report Form Including Vehicle Damage and Injury Rating Scales.

It was agreed that each participating nation would organize its own medical-engineering team which would examine a proposed trial protocol and test it in several actual investigations. The teams would then convene in one or more workshops to exchange information on their field experience with the use of the trial protocol and modify it as a result of this experience.

Phase 2: Case Studies Using the Concensus Protocol.

Once the consensus protocol was agreed upon, each participating nation would conduct at least 50 accident investigations using the protocol.

Phase 3: Analysis of the Project Effectiveness.

The data from the case studies would be aggregated and analyzed as a basis for assessing the validity of the basic premise of the project; namely, the feasibility and utility in several nations conducting research accident investigations in the same manner.

Organization of Report

The CCMS Accident Investigation Project final report has been organized into three sections. *Section 1* – contains introductory remarks and technical reports describing project operations and results. *Section 2* – consists of a manual describing the reporting variables contained in the final revision of the Collision Analysis Report Form. *Section 3* – describes the basic computer programs that were used in the project for accident data reduction and test analysis. Also, frequency counts for each of the variables collected during the project are presented.

Acknowledgments

Acknowledgment is due to numerous individuals, organizations, and nations for the diligence with which they collected accident data for the study, the understanding and patience they exhibited during periods of arbitration over elements of the protocol, and the professional attitude and interest demonstrated during all phases of the project. It would be extremely difficult to identify each individual who made significant contributions, and an expression of appreciation is hereby extended to all participants in the NATO/CCMS accident investigation exercise.

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Volkswagen, Germany

Rudolfo Mailander, Turin Workshop
Fiat, Italy

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INTRODUCTION

On June 12, 1970, the Accident Investigation Project was formally inaugurated at a meeting held in Brussels, Belgium. At this meeting, a program was proposed in which government or combined government/industry teams composed of automotive engineers, medical doctors, and others were to conduct investigations of 50 motor vehicle crashes occurring in their respective countries. The primary objective of the project was to test the feasibility and practicality of a process for collecting vehicle damage and correlative injury information to: (1) aid automotive designers in producing safer automobiles and (2) assist governments in evaluating the performance of existing standards and regulations or determine the need for modifications to these standards. The means by which the objectives would be accomplished was an international set of accident investigation and reporting protocols that would provide a common basis for accident analysis on a world-wide scale. For the purposes of this protocol feasibility study, the investigations were limited to two important fundamental parameters of the accident: namely (1) vehicle deformation and (2) injury severity.

Accident Severity Parameters

Vehicle deformation was to be quantified according to a system described as the Vehicle Deformation Index, Society of Automotive Engineers Recommended Practice J224a. The Vehicle Deformation Index (VDI) is a system for quantitatively and qualitatively describing the condition of a vehicle following a crash. Information that can be described by the VDI includes the direction of application of the impact force; general location of damage; specific horizontal and vertical locations of damage; general type of collision, i.e., sideswipe, rollover, overhanging object, etc.; and extent of damage sustained.

Injury severity was to be recorded: (1) on a specific basis for each injury sustained by each occupant in a collision, and (2) on an overall basis for each occupant to summarize the possible additive effect of the individual injuries. Guidelines for evaluating injury severity are presented in "The Abbreviated and Comprehensive Research Injury Scales," John D. States, M.D., 13th Stapp Car Crash Conference, December 1969. The pilot study participants were to use only the Abbreviated Injury Scale (AIS) which stands alone as a means of quantifying injury, but does not take into consideration such complicating factors as age of the injured person, permanent disability, etc.

These two descriptors formed the basis for the accident data collection program. Once trained in the application of these two measures, technical personnel can reasonably uniformly describe damage and injury. Later analysis was then intended (at the conclusion of the data collection phase) to investigate the feasibility of identifying limited elements of accident severity from the information supplied in the case reports.

Program Methodology

A general program methodology was suggested by the United States. This methodology assumed the form of a protocol adapted from a Multidisciplinary Accident Investigation Program; the protocol was a coded booklet called the Collision Analysis Report Form (CARF). These CARF's offered a means by which an accident investigator could furnish a detailed report of the damage sustained by one of the vehicles in an accident, and the injuries suffered (if any) by each occupant in that vehicle. The CARF, with modifications, was to be adopted by the Coordinating Panel at a later date. Specific procedures for accomplishing the goals of the program were to be developed by the program participants in subsequent meetings.

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Traffic accident investigators from the U.S., drawing from their experience gained in Multidisciplinary Accident Investigation, organized investigative guidelines and field procedures to assist international participants in beginning their programs. In the U.S., multidisciplinary accident investigation encompasses all facets of the accident – vehicle, environment, and human. Furthermore, each of these elements is explored for significance in each of the precrash, crash, and postcrash phases of the accident. Such complexity was not considered practical for the start up of the Accident Investigation Pilot Study.

Case Study Program

The data collection phase of the Accident Investigation Pilot Study was called the Case Study Program. Participants were asked to test the protocol by actual application of the process to traffic accidents. Through such first hand working experience, operational problems and process shortcomings were to be identified for possible correction. As governments and their industries gained operating experience and learned how application of the results of the studies could be used for beneficial purposes, they would be urged to consider the feasibility of an expanded International Accident Investigation Program and the impact that an expanded movement could make on the mobilized world.

At the initial meeting in Brussels, nine nations indicated a desire to participate in the project – Belgium, Canada, France, Federal Republic of Germany, Italy, The Netherlands, United Kingdom, United States, and The AB Volvo Corporation of Sweden as a non-NATO, non-government observer. The Netherlands agreed to lead the project and oversee its operation.

A coordinating panel composed of the senior governmental officials from each participating country, and chaired by the Deputy Director of The Netherlands Road Transport Service, was formed. The function of the Panel was to provide a forum for obtaining agreements on the use of a report form, vehicle deformation and injury scales, and the general methodology and operation of the project.

For the purpose of the Case Study Program, however, the consideration of a broad variety of factors was excluded in order to keep the program under reasonable management bounds and to establish the means for communication and cooperation among nations. Rather than collect sufficient data to establish statistical significance, the participating governments were assigned only a few cases (50 per country) in the Case Study Program to enable them to obtain working experience which would provide the basis for testing the efficacy of the process.

Wolfsburg Workshop

Start up of the Case Study Program was initiated at the Wolfsburg Workshop in Wolfsburg, Germany on October 22, 1970. It was here that the Coordinating Panel first met in full session. During this meeting (hosted by the Federal Republic of Germany and the Volkswagenwerk, more detailed aspects of the program were discussed and operational procedures were agreed upon. Also at the workshop, technical representatives of the participating teams were furnished a preliminary supply of the Collision Analysis Report Forms to be used during the project startup. Detailed technical aspects of the report form and of the vehicle deformation and injury severity indices, comprising the heart of the form, were discussed by accident investigators from all participating nations.

An invitation to participate in multidisciplinary accident investigation training sessions held in the U.S.A. was extended to all participants. Approximately 25 accident investigators from Canada and European countries attended one of four advanced training sessions held in the United States.

At the Wolfsburg meeting, guidelines were established for collecting medical and engineering data in the field.

Before a team is sent into the field, a basic format for the investigating process must be established. Rigid adherence to a chronological sequence of the devised procedures cannot be expected. However, if there is to be an effective comparison and use of the final results, all of the specified data must be obtained. To ensure the uniform acquisition of data, it was suggested that the individual responsibilities of each team member be thoroughly defined. Nevertheless, it was expected that each team would devise a methodology for field investigation that might be unique to their group. Such procedures would depend largely upon the amount of cooperation and validity of information received from not only the accident participants, but hospitals, law enforcement agencies, highway designers, etc. in the particular study region.

A major accomplishment of the Wolfsburg Workshop was the definition of the elements of the CARF to be included in the study; certain questions in the CARF were considered to be outside the scope of the program. Much of the environmental data and certain human and psychological data were deleted from the CARF. Teams were then asked to familiarize themselves with accident investigation field procedures using the form on several accident investigations. Subsequent consultation with each of the participating teams was intended to modify and improve the CARF so that data collected during the remaining stages of the program would be useful in demonstrating the feasibility of the standardized protocol in international accident data collection and analysis.

Turin Workshop

After 8 months of field experience with the CARF, a second workshop was held for the participating teams at Turin, Italy on July 1-2, 1971. This meeting was hosted by the Italian Government and the Fiat Corporation. The purposes of the meeting were to (1) exchange field experiences with the revised investigation protocols, (2) make recommendations for further revisions of the Collision Analysis Report Form, and (3) resolve operational problems encountered during the early stages of the program.

Based on the discussions during this second workshop, another version of the Collision Analysis Report Form (yellow version, dated December 1, 1971) was made. This revision contained a set of unique specialized vehicle deformation and injury severity scaling indices derived from the combined recommendations of several different countries. These truly "international" indices represented the first realistic attempt to provide a comparative accident measurement scheme that could cope with the diverse highway safety situations found among the various participating countries.

On the basis of prepared papers and open discussion, the Turin Workshop identified several problems which had surfaced in the early stages of field work. All of these problems would be resolved in field operational instructions which would be prepared in the month following the workshop. Meanwhile, the teams in the participating countries proceeded with their investigation activities.

By February 20, 1973, a total of 528 accident reports from 33 participating teams in nine countries was received by the Project Chairman. These cases were transmitted to the Southwest Research Institute in San Antonio, Texas, which was acting as a technical consultant and advisor to the Project Chairman, under contract to the U.S. Department of Transportation. This contractual arrangement was made with the consent of the Chairman. Using the information submitted in the accident reports, then, SwRI was to perform data processing and test analyses under proprietary constraints defined by the Coordinating Panel.

Brussels Workshop

A final accident investigation workshop and Coordinating Panel meeting was held at NATO headquarters in Brussels, Belgium on June 28-30, 1973. The purpose of this workshop was to discuss investigative methodology related to vehicle deformation, impact speed determinations, injury severity scaling, and project results. A shorter Collision Analysis Report Form was also presented in response to comments received from project participants. The Coordinating Panel meeting was held June 30, and its purpose was to discuss project conclusions and to reach agreement on project recommendations. Agreement among Coordinating Panel members was unanimous that the international accident investigation program be continued. A detailed description and discussion of the international program agreed upon is contained in another section of this report.

ORGANIZATIONAL AND OPERATIONAL STRUCTURE

The efficacy of the international accident research program was based on the concept that the individual governments supported their accident investigation teams, both financially and politically, and that the teams themselves were composed of qualified individuals who collected data according to a standard and comparable format. The effectiveness of the program at all levels was dependent upon an adequate system of intercommunication.

Coordinating Panel

One member from each of the participating governments was designated to represent that country in the Accident Investigation Pilot Study. In most instances, the member was a senior government official selected from the respective Ministry or Department of Transportation. Table 1 lists the individuals who served in the capacity of Coordinating Panel member during the reporting period.

Special Committees

Two special committees were established by the project chairman—the operations subcommittee and the evaluations subcommittee. Mr. DeCoster, as chairman of the operations committee, was responsible for all working procedural elements of the program. His office served as the repository and distribution center for all accident case reports. Microfiche copies of case reports were prepared by the operations subcommittee also. Mr. Perring, as chairman of the evaluations subcommittee, was responsible for organizing the evaluation portion of the project. Mr. Perring's office was instrumental in preparing the critique questionnaire form which was sent to the individual teams in an effort to gain information which would help assess the overall program performance.

Investigation Teams

Summary information concerning each of the participating teams is shown in Tables 2 to 33. As far as possible, the following information is recorded for each team: sponsoring country, team name, team address, team members and discipline, area of operation, accident criteria, how notified, response time, and remarks.

TABLE 1. COORDINATING PANEL MEMBERS

Country	Name	Address
Netherlands	Johan G. Kuiperbak, Project Chairman	Deputy Director of Road Transportation Service Fruitweg 262 The Hague Netherlands
Belgium	Jean-Paul DeCoster	Fonds D'Etudes et de Recherches Pour La Securite Routier A.S.B.L. Rue du Gouvernement Provisoire, 14 1000 Bruxelles Belgium
Canada	J. A. Bancroft	Ministry of Transport Road and Motor Vehicle Traffic Safety Office Ottawa, Canada
Federal Republic of Germany	Hubert Jungblut	Bundestransportministerium Sternstrasse 100 53 Bonn Federal Republic of Germany
France	M. Halpern-Herla	Institut de Recherche des Transports (IRT) 2, avenue du General Malleret-Joinville B.P. 28 94-Arcueil France
Italy	Dr. Ing. Alighiero Bottaro Ing. Roberto Piazzini	Ispettore Generale del Ministero dei Trasporti EA.C. Roma-Via Nomentana, 591 Italy
Sweden (non-NATO observer)	Nils Bohlin	AB Volvo S-405-08 Gothenburg, Sweden
United Kingdom	Hubert Perring	Director/Chief Mechanical Engineer Department of Environment St. Christopher House-Southwark St. London SE1 England
United States	Dr. E. E. Flamboe	National Highway Traffic Safety Administration Washington, D.C. 20590

TABLE 2. BELGIUM NO. 1 ACCIDENT TEAM

Country:	Belgium
Team Identification:	Team No. 1
Team Address:	Fonds d'Etudes pour la Securité Routière 14 rue du Gouvernement Provisoire, 1000 Bruxelles Belgium
Team Members and Discipline:	J-P. De Coster, engineer Hugo Van Gompel, engineer A. Theunis, medical doctor
Area of Operation:	North part of Brussels including important roads and motorways
Accident Criteria:	The team is the fire department. The fire department operates an emergency medical service.
How Notified and Response Time:	Notification is via fire department two-way radio.
Remarks:	The Belgium team was formed for the NATO exercise only

TABLE 3. UNIVERSITY OF TORONTO ACCIDENT TEAM

Country:	Canada
Team Identification:	University of Toronto
Team Address:	Toronto 181, Ontario Canada
Team Members and Discipline:	A panel of experts
Area of Operation:	Metropolitan Toronto
Accident Criteria:	A current model year vehicle (1970-2) involved in an accident resulting in a fatality or injury to the occupant(s) or the towing away of the vehicle from the scene.
How Notified and Response Time:	
Remarks:	All teams are involved in completing in-depth multidisciplinary accident reports. In addition, the teams carry out special investigation into vehicle defects as directed by this Branch.

TABLE 4. ECOLE POLYTECHNIQUE ACCIDENT TEAM

Country:	Canada
Team Identification:	Ecole Polytechnique
Team Address:	C.P. 501, Snowdon, Montreal, P.Q. Canada
Team Members and Discipline:	A panel of experts
Area of Operation:	North sector of Metropolitan Montreal
Accident Criteria:	A current model year vehicle (1970-2) involved in an accident resulting in a fatality or injury to the occupant(s) or the towing away of the vehicle from the scene
How Notified and Response Time:	
Remarks:	All teams are involved in completing in-depth multidisciplinary accident reports. In addition, the teams carry out special investigation into vehicle defects as directed by this Branch.

TABLE 5. McGILL UNIVERSITY ACCIDENT TEAM

Country:	Canada
Team Identification:	McGill University
Team Address:	P.O. Box 6070 Montreal 101, Quebec Canada
Team Members and Disciplines:	Prof. A.L. Thompson, mechanical engineer A panel of experts
Area of Operation:	South sector of Metropolitan Montreal
Accident Criteria:	A current model year vehicle (1970-2) involved in an accident resulting in a fatality or injury to the occupant(s) or the towing away of the vehicle from the scene
How Notified and Response Time:	
Remarks:	All teams are involved in completing in-depth multidisciplinary accident reports. In addition, the teams carry out special investigation into vehicle defects as directed by this Branch.

TABLE 6. THE UNIVERSITY OF NEW BRUNSWICK ACCIDENT TEAM

Country:	Canada
Team Identification:	The University of New Brunswick
Team Address:	Fredericton, N.B. Canada
Team Members and Disciplines:	A panel of experts
Area of Operation:	Province of New Brunswick
Accident Criteria:	A current model year vehicle (1970-2) involved in an accident resulting in a fatality or injury to the occupant(s) or the towing away of the vehicle from the scene
How Notified and Response Time:	
Remarks:	All teams are involved in completing in-depth multidisciplinary accident reports. In addition, the teams carry out special investigation into vehicle defects as directed by this Branch.

TABLE 7. RESEARCH COUNCIL OF ALBERTA ACCIDENT TEAM

Country:	Canada
Team Identification:	Research Council of Alberta
Team Address:	303 Civil-Electrical Building University of Alberta, Edmonton 7, Alberta Canada
Team Members and Disciplines:	A panel of experts
Area of Operation:	Area surrounding City of Edmonton
Accident Criteria:	A current model year vehicle (1970-2) involved in an accident resulting in a fatality or injury to the occupant(s) or the towing away of the vehicle from the scene
How Notified and Response Time:	
Remarks:	All teams are involved in completing in-depth multidisciplinary accident reports. In addition, the teams carry out special investigation into vehicle defects as directed by this Branch.

TABLE 8. ACCIDENT AND DEFECT INVESTIGATION ACCIDENT TEAM

Country:	Canada
Team Identification:	Accident and Defect Investigation
Team Address:	Ministry of Transport Road and Motor Vehicle Traffic Safety Office Ottawa, Ontario Canada
Team Members and Disciplines:	J.A. Bancroft, principal investigator A panel of experts
Area of Operation:	Metropolitan Ottawa and surrounding areas as well as special investigations of national interest
Accident Criteria:	A current model year vehicle (1970-2) involved in an accident resulting in a fatality or injury to the occupant(s) or the towing away of the vehicle from the scene
How Notified and Response Time:	
Remarks:	All teams are involved in completing in-depth multidisciplinary accident reports. In addition, the teams carry out special investigation into vehicle defects as directed by this Branch.

TABLE 9. FORD ACCIDENT TEAM

Country:	Federal Republic of Germany
Team Identification:	Ford
Team Address:	Ford Werke AG 5000 Köln Federal Republic of Germany
Team Members and Disciplines:	Mr. Hoffman, ing. Mr. Schlenkev Mr. T. Mandla
Area of Operation:	
Accident Criteria:	(1) Damage above a fixed monetary amount (2) Accident must have been injury-producing (3) Only cars manufactured by Ford are investigated
How Notified and Response Time:	
Remarks:	

TABLE 10. OPEL ACCIDENT TEAM

Country:	Federal Republic of Germany
Team Identification:	Opel
Team Address:	Adam Opel AG 609 Rüsselsheim An Main Federal Republic of Germany
Team Members and Disciplines:	Dipl.-Ing. Klaus Kreuzberg
Area of Operation:	
Accident Criteria:	(1) Damage above a fixed monetary amount (2) Accident must have been injury-producing (3) Only cars manufactured by Opel are investigated
How Notified and Response Time:	
Remarks:	

TABLE 11. UNIVERSITY OF HEIDELBERG ACCIDENT TEAM

Country:	Federal Republic of Germany
Team Identification:	University of Heidelberg
Team Address:	Chirurgische Universitätsklinik 6900 Heidelberg 1 Federal Republic of Germany
Team Members and Disciplines:	Prof. Dr. Med. Eberhard Gögler
Area of Operation:	
Accident Criteria:	(1) Damage above a fixed monetary amount (2) Accident must have been injury-producing (3) Cars manufactured by all manufacturers are investigated
How Notified and Response Time:	
Remarks:	Team responds to notification with one or two team vehicles for onsite investigation and emergency medical service.

TABLE 12. VOLKSWAGEN ACCIDENT TEAM

Country:	Federal Republic of Germany
Team Identification:	Volkswagen
Team Address:	Volkswagen Werke AG 3180 Wolfsburg Federal Republic of Germany
Team Members and Disciplines:	Herr Öhlerking Herr Albrecht Herr Hambach Herr Albers
Area of Operation:	
Accident Criteria:	(1) Damage above a fixed monetary amount (2) Accident must have been injury-producing (3) Only cars manufactured by Volkswagen are investigated
How Notified and Response Time:	
Remarks:	

TABLE 13. DAIMLER-BENZ ACCIDENT TEAM

Country:	Germany
Team Identification:	Daimler-Benz
Team Address:	Daimler-Benz AG 7032 Sindelfingen Federal Republic of Germany
Team Members and Disciplines:	Dipl.-Ing. Wilhelm R. Stegmaier Herr Helmut Alisch Herr Herrman Herr Zeidler
Area of Operation:	
Accident Criteria:	(1) Damage above a fixed monetary amount (2) Accident must have been injury-producing (3) Only cars manufactured by Dainler-Benz are investigated
How Notified and Response Time:	
Remarks:	Team responds to notification with team vehicle for onsite investigation of accidents.

TABLE 14. ONSER ACCIDENT TEAM

Country:	France
Team Identification:	ONSER
Team Address:	Laboratoire des Chocs de l'Onser 109 chemin Saint-Jean 69-Bron
Team Members and Disciplines:	Mme. le Docteur Ramet, medical doctor Mr. Cesari, Ir Mr. Dolivet, technician Mr. Zac, technician
Area of Operation:	Radius of 60 km around Lyon
Accident Criteria:	French automobiles less than 5 years old
How Notified and Response Time:	
Remarks:	(1) The team performs a multidisciplinary-type investigation. The main objectives of the study are to increase knowledge concerning the human tolerance to shock and to verify the function of the restraint system. (2) The injured in these accidents were taken to either the Edouard Harriot Hospital in Lyon or to the Vienne Hospital.

TABLE 15. PEUGEOT-RENAULT ACCIDENT TEAM

Country:	France
Team Identification:	Peugeot-Renault
Team Address:	Association Peugeot-Renault 18 rue des Fauvelles 92 – La Garenne-Colombes
Team Members and Disciplines:	Mr. le Dr. A. Patel, surgeon Mr. Hartemann, psychologist Mr. Fayon, Ir Mr. Thomas, technician
Area of Operation:	West Highway (outside of Paris) and the access roads feeding into the Highway
Accident Criteria:	Study of late-model Peugeot and Renault automobiles
How Notified and Response Time:	
Remarks:	The team mainly studied the behavior of Peugeot and Renault automobiles in highway accidents.

TABLE 16. SQUADRA DI TORINO ACCIDENT TEAM

Country:	Italy
Team Identification:	Squadra di Torino
Team Address:	Centro Prove Autoveicoli di Torino Ministero dei Trasporti MCTC Via Chambery 79/12, Torino
Team Members and Disciplines:	Dr. Ing. Achille Firpo Magg. Genesio de Caro Sig. Enzo Franchini Prof. Carlo de Pedrini
Area of Operation:	Torino
Accident Criteria:	(1) Fiat cars only – no trucks (2) Current production models up to 5 years old (3) Over $70 to $80 (U.S.) damage
How Notified and Response Time:	Teams are notified by police 1 to 2 hours after accident to as many as 1 or 2 days later.
Remarks:	In about 50 percent of cases, vehicles have been moved.

TABLE 17. SQUADRA DI MILANO ACCIDENT TEAM

Country:	Italy
Team Identification:	Squadra di Milano
Team Address:	Centro Prove Autoveicoli di Milano del Ministero dei Transporti MCTC Via Agudio 1, Milano
Team Members and Disciplines:	Dr. Ing. Renzo Strampelli Ten. Col. Emanuele Paolillo Sig. Giuseppe Lanzoni Dr. Luigi Bruno
Area of Operation:	Milano
Accident Criteria:	(1) Alfa Romeo cars only – no trucks (2) Current production models up to 5 years old (3) Over $70 to $80 (U.S.) damage
How Notified and Response Time:	Teams are notified by police 1 to 2 hours after accident to as many as 1 to 2 days later.
Remarks:	In about 50 percent of cases, vehicles have been moved.

TABLE 18. SQUADRA DI BOLOGNA ACCIDENT TEAM

Country:	Italy
Team Identification:	Squadra di Bologna
Team Address:	Centro Prove Autoveicoli di Bologna Ministero dei Trasporti MCTC Via G. Marconi 6, Bologna
Team Members and Disciplines:	Dr. ing. Giovanni Baserga Magg. Alfredo Romildo Dr. ing. Giancarlo Ronco Dr. Giuseppe Cosseddu
Area of Operation:	Bologna
Accident Criteria:	(1) Lancia cars only–no trucks (2) Current production models up to 5 years old (3) Over $70 to $80 (U.S.) damage
How Notified and Response Time:	Teams are notified by police 1 to 2 hours after accident to as many as 1 to 2 days later.
Remarks:	In about 50 percent of cases, vehicles have been moved.

TABLE 19. SWOV ACCIDENT TEAM

Country:	The Netherlands
Team Identification:	SWOV
Team Address:	Institute for Road Safety Research SWOV postbox 71, Voorburg, The Netherlands
Team Members and Disciplines:	Ir H.G. Parr, head of crash department–SWOV, automobile engineer Ir L.T.B. van Kampen, team leader, automobile engineer A.F. Lans, photographer, associate member Dr. J. Masereeuw, physician Chris Schoon, technician
Area of Operation:	About 2000 km^2, from Institute in center
Accident Criteria:	(1) Every make of car (2) Severity–at least damage exceeding f 1500 or personal injury or both (3) All kinds of roads (inside and outside city limits) (4) Happening between 0900 and 1700 hours
How Notified and Response Time:	Notified by police report
Remarks:	The team is involved in the NATO exercise but conducts other safety research also.

TABLE 20. VOLVO ACCIDENT TEAM

Country:	Sweden
Team Identification:	Volvo
Team Address:	AB Volvo, 56300 VTC 3B, Att. Nils Bohlin S–405 08 Göteborg
Team Members and Disciplines:	Nils Bohlin, research engineer Lars-Erik Samuelsson, research engineer Hans Norin, research engineer Ake Andersson, M.D.
Area of Operation:	Göteborg and the surrounding area which can be covered with about 1-hour car ride
Accident Criteria:	The team is concerned with accidents only in which Volvo Models 14 and 16 are involved.
How Notified and Response Time:	The team is notified via two-way police radio if the vehicle satisfies the accident criteria.
Remarks:	The team operates further as an ordinary expert group for onsite investigations.

TABLE 21. U.K. NO. 1 (TRRL) ACCIDENT TEAM

Country:	United Kingdom
Team Identification:	U.K. No. 1 (TRRL)
Team Address:	Transport and Road Research Laboratory Crowthorne, U.K.
Team Members and Disciplines:	E. Grattan, BA, MB, BCh, FRCS med. Nancy Clegg, MA, MB, BCh, Dr med. J.H. Hobbs, engineering E.S. Lawrence, C. Eng, MIMechE, AMIMI, D. Creasy, engineering D. Palmer, photographic Mrs. M.W. Linsdale, secretarial
Area of Operations:	The catchment area lies within a 25-mile radius of TRRL in Crowthorne, Bershire, in all directions of the compass.
Accident Criteria:	Unselected accidents involving current model passenger cars, in which at least one of the occupants has been seriously injured, i.e., admitted to hospital for the injury (injuries) sustained. This may require further discussion.
How Notified and Response Time:	
Remarks:	The team noted above is, of course, involved in a large amount of work in addition to the NATO-CCMS exercise, viz, accident-injury investigation into accidents involving vehicles other than passenger cars, the study of pedestrian injuries, the study of injuries amongst seatbelt wearers, human tolerance studies, the investigation of accidents involving vehicles with safety design features, the relation between accidents and illness or fatigue or the use of drugs, etc.

TABLE 22. U.K. NO. 2 (BIRMINGHAM) ACCIDENT TEAM

Country:	United Kingdom
Team Identification:	U.K. No. 2 (Birmingham)
Team Address:	Department of Transportation and Environmental Planning University of Birmingham, Birmingham B15
Team Members and Disciplines:	Dr. G.M. MacKay, B.Sc., S.M., Ph.D., M.I.C.E., M.I. Mech. E. Col. H.O. Nelson Mr. J.L.G. Hardy, B.A. Mrs. C. Baird Mr. S.J. Ashton, B.Sc. (part-time)
Area of Operations:	The Midlands, i.e., cases are collected through police contacts in the City of Birmingham, the West Midlands Constabulary, and the counties of Warwickshire and Worcestershire.
Accident Criteria:	(1) Case has generated emergency call to the police (with or without occupant injury) (2) Case includes a current production car less than 3 years old (3) Study includes both foreign and domestic makes of car, 20 percent from each of 4 U.K. manufacturers and 20 percent from all others (4) Simple accidents (not multicar) (5) Concentrate on frontal and energy-absorbing column (6) Slightly biased toward rural (7) No environmental data
How Notified and Response Time:	Team is notified 24 hours to 7 days after accident occurs
Remarks:	Team does no onsite investigation.

TABLE 23. BOSTON UNIVERSITY ACCIDENT TEAM

Country:	United States
Team Identification:	Boston University
Team Address:	141 Bay State Rd. Boston, Massachusetts 02215
Team Members and Disciplines:	Michael Lwongo, M.D., project director George G. Katsas, M.D., coordinator and co-director of project Robert Sterling-Smith, psychologist Other specialists and technicians
Area of Operation:	Boston Area
Accident Criteria:	(1) At least one of the vehicles must be manufactured in the last 3 model years. (2) Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker.
How Notified and Response Time:	Notified of an accident from Boston Police Department and medical examiner's office.
Remarks:	(1) Boston University conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI investigations were adapted for inclusion in the NATO/CCMS accident file. (2) The MDAI program is conducted under the auspices of the medical examiner's office, so most accident investigations involve fatalities.

TABLE 24. ROCHESTER UNIVERSITY ACCIDENT TEAM

Country:	United States	
Team Identification:	Rochester University	
Team Address:	University of Rochester Research Accident Investigation 140 Allens Creek Rd. Rochester, New York 14618	
Team Members and Disciplines:	John D. States, M.D., principal investigator John Balcerak, associate principal investigator Other specialists and technicians	
Area of Operation:	City of Rochester area	
Accident Criteria:	(1)	At least one of the vehicles must be manufactured in the last 3 model years.
	(2)	Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker.
How Notified and Response Time:	Review of accident reports and medical records	
Remarks:	Rochester University conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI investigations were adapted for inclusion in the NATO/CCMS accident file.	

TABLE 25. CALSPAN ACCIDENT TEAM

Country:	United States	
Team Identification:	CALSPAN	
Team Address:	CALSPAN Corporation P.O. Box 235 Buffalo, New York 14221	
Team Members and Disciplines:	John W. Garrett, director, Accident Research Branch Don Kendricks, engineer D. Morris, accident investigation section R. Braisted, field operations section Other specialists and technicians	
Area of Operation:	City of Buffalo and surrounding area	
Accident Criteria:	(1)	At least one of the vehicles must be manufactured in the last 3 model years.
	(2)	Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker.
How Notified and Response Time:	Monitor police radio, telephone call from police	
Remarks:	(1)	CALSPAN conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI investigations were adapted for inclusion in the NATO/CCMS accident file.
	(2)	Team responds to notification with onsite investigation.

TABLE 26. GEORGIA TECH ACCIDENT TEAM

Country:	United States
Team Identification:	Georgia Tech
Team Address:	Georgia Institute of Technology School of Civil Engineering Atlanta, Georgia 30332
Team Members and Disciplines:	Paul H. Wright, Ph.D. in civil engineering, administrative director E. Jo Baker, Ph.D., psychologist Other specialists and technicians
Area of Operation:	DeKalb and Fulton counties
Accident Criteria:	(1) At least one of the vehicles must be manufactured in the last 3 model years. (2) Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker.
How Notified and Response Time:	Monitor police radio
Remarks:	(1) Georgia Tech conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI investigations were adapted for inclusion in the NATO/CCMS accident file. (2) Team responds to notification with onsite investigation.

TABLE 27. UNIVERSITY OF SOUTHERN CALIFORNIA ACCIDENT TEAM

Country:	United States
Team Identification:	University of Southern California
Team Address:	University of Southern California Automotive Collision Research Los Angeles, California 90007
Team Members and Disciplines:	Willis H. Wood, M.A., C.S.P., principal investigator Jack Baird, B.S. Eng., project manager Other specialists and technicians
Area of Operation:	Los Angeles Area
Accident Criteria:	(1) At least one of the vehicles must be manufactured in the last 3 model years. (2) Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker.
How Notified and Response Time:	Two-way police radio and phone
Remarks:	(1) University of Southern California conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI investigations were adapted for inclusion in the NATO/CCMS accident file. (2) Team responds to notification with onsite investigation..

TABLE 28. UNIVERSITY OF NEW MEXICO ACCIDENT TEAM

Country:	United States
Team Identification:	University of New Mexico
Team Address:	University of New Mexico Department of Civil Engineering Albuquerque, New Mexico 87106
Team Members and Disciplines:	Gerald W. May, Ph.D., C.E., P.E. Wm. E. Baker, Ph.D., M.E., P.E. Other specialists and technicians
Area of Operation:	Albuquerque area
Accident Criteria:	(1) At least one of the vehicles must be manufactured in the last 3 model years. (2) Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker.
How Notified and Response Time:	Monitor police radio
Remarks:	(1) University of New Mexico conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI investigations were adapted for inclusion in the NATO/CCMS accident file. (2) Team responds with team vehicle for onsite investigation.

TABLE 29. INDIANA UNIVERSITY ACCIDENT TEAM

Country:	United States
Team Identification:	Indiana University
Team Address:	Indiana University 400 East Seventh St. Bloomington, Indiana 47401
Team Members and Disciplines:	Kent B. Joscelyn, J.D., director, principal investigator John R. Treat, B.S.M.E., J.D., project director
Area of Operation:	Monroe County
Accident Criteria:	(1) At least one of the vehicles must be manufactured in the last 3 model years. (2) Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker.
How Notified and Response Time:	Monitor police radio, telephone calls from police
Remarks:	(1) Indiana University conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI investigations were adapted for inclusion in the NATO/CCMS accident file. (2) Team responds to notification with team vehicle for onsite investigation.

TABLE 30. SOUTHWEST RESEARCH INSTITUTE ACCIDENT TEAM

Country:	United States
Team Identification:	Southwest Research Institute
Team Address:	Southwest Research Institute Department of Automotive Research P.O. Drawer 28510 San Antonio, Texas 78284
Team Members and Disciplines:	J. Robert Cromack, M.E., M.Sc., P.E. T.H. Swiercinsky, research engineer Gregory Sethness, C.E., EIT JoAnn Ziegler, medical technician J.H. Cannon, automotive technician M.A. Scofield, automotive technician
Area of Operation:	Bexar County, Texas (approximately 3230 sq km)
Accident Criteria:	(1) At least one of the vehicles must be manufactured in the last 3 model years. (2) Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker. (3) All types of accidents are investigated. (4) Only accidents in which a team member is at the scene before the vehicles are moved are investigated.
How Notified and Response Time:	Notified via phone call from police or by police radio at the time of the accident. Response time varies from 1 to 2 minutes to as much as 1 hour after notification.
Remarks:	(1) SwRI conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI cases were adapted for inclusion in the NATO/CCMS accident file. (2) The nominal accident population for Bexar County in 1970-1 was 26,000 total accidents/year, including about 8000 injury-producing accidents and 100 fatal accidents.

TABLE 31. UNIVERSITY OF MIAMI ACCIDENT TEAM

Country:	United States
Team Identification:	University of Miami
Team Address:	University of Miami Crash Study Team 5225 Ponce De Leon Blvd. Coral Gables, Florida
Team Members and Disciplines:	Dr. Brian Blackbourne Dr. Joseph Davis, medical examiner Dr. William Fogarty, civil engineer Dr. Neil Freeman, mechanical engineer Mrs. Carole Haviland, psychologist Dr. Aftab Khan Mr. Harold Martz Dr. Carl McKenry Mr. James Metka Mr. Joseph Metka Mr. Glenn Sudduth Mr. Ted Watts
Area of Operation:	Dade County, Florida
Accident Criteria:	(1) At least one of the vehicles must be manufactured in the last 3 model years. (2) Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker.
How Notified and Response Time:	Police notify an answering service which, in turn, broadcasts a call to team members via personal radio page. Response varies from a few minutes to a few hours.
Remarks:	(1) Miami conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI investigations were adapted for inclusion in the NATO/CCMS accident file. (2) Team responds to accident notification with onsite investigation.

TABLE 32. HIGHWAY SAFETY RESEARCH INSTITUTE ACCIDENT TEAM

Country:	United States
Team Identification:	Highway Safety Research Institute
Team Address:	Highway Safety Research Institute The University of Michigan Ann Arbor, Michigan 48104
Team Members and Disciplines:	Peter Cooley, engineer, principal investigator Other specialists and technicians
Area of Operation:	Washtenaw County, Michigan
Accident Criteria:	(1) At least one of the vehicles must be manufactured in the last 3 model years. (2) Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker.
How Notified and Response Time:	Monitor police radio and telephone call from police
Remarks:	(1) Highway Safety Research Institute conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI investigations were adapted for inclusion in the NATO/CCMS accident file. (2) Team responds to notification with team vehicle for onsite investigation.

TABLE 33. UTAH STATE DIVISION OF HEALTH ACCIDENT TEAM

Country:	United States
Team Identification:	Utah
Team Address:	Utah State Division of Health Office of Medical Examiner 44 Medical Drive Salt Lake City, Utah 84113
Team Members and Disciplines:	James T. Weston, M.D., project director Richard Warburton, B.S., project director Fred Wagner, M.S., engineering evaluation Other specialists and technicians
Area of Operation:	Salt Lake City and surrounding area
Accident Criteria:	(1) At least one of the vehicles must be manufactured in the last 3 model years. (2) Accident must have produced a fatality or significant injury or one of the vehicles must have been damaged sufficiently to necessitate being towed from the scene by a wrecker.
How Notified and Response Time:	Monitor police radio, communications with police
Remarks:	(1) Utah conducts multidisciplinary accident investigations (MDAI) for the U.S. Department of Transportation. The MDAI investigations were adapted for inclusion in the NATO/CCMS accident file. (2) Team responds to notification for onsite investigation.

COMMON REPORT FORM

The original program plan called for the use of a single common accident reporting form. The first basic form was constructed by the United States using their National Multidisciplinary Accident Investigation program as a model–the protocol was a coded form called the "Collision Analysis Report Form" (CARF). The CARF was modified at the Wolfsburg workshop by deleting some of the data elements considered by participants to be outside the scope of the program. Preliminary field experience was gained using the initial (or blue covered) CARF so that at the Turin workshop, constructive modifications to the form were suggested by the users. The United States undertook the task of modifying the form in an attempt to improve its utility and the potential value of the data to be contained therein. This effort led to the yellow-covered "Collision Analysis Report Form" which was more detailed and which contained a greater quantity of data than the blue CARF.

As a matter of comparison, however, the blue CARF could not be identically translated into the yellow CARF format. The result was a protocol that most teams would eventually come to regard as too complex and difficult to apply in the field during the initial stages of international accident investigation. Nevertheless, the yellow form was the one that was adopted for test. It should be pointed out that many teams supplied their data for this program in blue CARF format. These data were not discarded, however. A computer program was written to translate all possible data from the blue CARF format to the yellow CARF format. It was possible to salvage over 90 percent of the data in the blue CARF's.

As the program progressed, many teams and nations began to detect the benefits that an international protocol for accident data could yield. Some teams, such as those of the Netherlands, United Kingdom, and Sweden, projected reasonably firm opinions regarding the data needs. These opinions were based on results of their own separate mass accident data collection and analysis programs. Other teams, those in France and Germany, found that their needs could be satisfied by concentrating on collecting data on vehicles of specific manufacturers.

In February 1972, with the concurrence of the Coordinating Panel Chairman, the U.S. Department of Transportation contracted Southwest Research Institute to assist in the pilot study by: (1) acting as a technical consultant to the project chairman, (2) collecting all of the accident cases from each participating team, (3) translating the data contained therein to an automated file, and (4) demonstrating the feasibility of the international accident investigation protocol. Numerous team visits were made by Southwest Research Institute personnel to obtain information from teams regarding their specific investigative needs and to coordinate the overall efforts of the program.

General Questionnaire

As a result of information obtained during these visits and other exchanges, an executive committee* met with SwRI personnel in San Antonio, Texas, to consider apparent divergences in program objectives detected from various teams. The committee concluded that more definitive information was required with regard to CARF content. A structured questionnaire was subsequently prepared and sent to all participants requesting comments regarding what each team thought might be the most important elements of the international protocol.

A total of 24 teams responded to a general questionnaire, the results of which are shown in Table 34. The general questionnaire results were not altogether satisfying in that most of the participant responses were received without discussion or comment. Consequently, it was difficult to assess such inconsistencies as those shown in Questions 5 and 8, for example. Two respondents reported that they required a longer form although ten wanted a greater quantity of information collected; seven wanted a shorter form, and only six wanted less information to be collected; twelve asked for the CARF length to be the same as before, however, only six stated they wanted the information collection quantity to remain the same. This was a particularly perplexing problem since, in personal encounters with investigation team leaders, SwRI personnel ascertained that the majority of the teams wanted a shorter length "Collision Analysis Report Form."

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*Composed of the Project Chairman, the two subcommittee chairmen, and the contract technical monitor.

TABLE 34. SUMMARY OF RESPONSES TO THE GENERAL QUESTIONNAIRE

Topic	Response	Topic	Response
1. Functional Structure		7. Program Continuation	
Accident Investigation	22	Affirmative	23
Government Agency	3	Negative	0
Manufacturer	4	No Response	1
Research Organization	8		
		8. Info Collection Quantity	
2. Average Case Cost (U.S. Dollars)		More	10
Arithmetic Mean	$584.60	Less	6
Weighted Average	419.40	Same	6
		Other	5
3. Improved Capabilities		No Response	1
Affirmative	17		
Negative	6	9. Ped. Acc. Inv. Feasibility	
No Response	1	Affirmative	19
		Negative	5
4. Investigation Detail			
Affirmative	17	10. User Training/Handbook	
Negative	7	Special Training	2
		User Manual	10
5. CARF Length		Both	13
Longer	2	Other	3
Shorter	7		
Same	12	11. Data Summary/Analysis	
Other	6	Automated Files	11
		Reports/Presentations	6
6a. Problem Awareness		Appropriate Procedures	2
Affirmative	17	No Response	8
Negative	7		
		12. Use of Data and Results	
6b. Suggested Solution		Safety Standards	17
Affirmative	10	Design Criteria	11
Negative	12	Public Info Program	15
Unknown	1	Other	6
No Response	1	No Response	1

Question No. 2 of Table 34 was revealing in that the average cost of a case in U.S. dollars (pre-February 1973) was reported to be $584.60. Since some teams prepared more cases than others, a weighted average, based on the cost per case and number of cases submitted, was computed. This weighted average cost is $419.40. Since the SwRI prepared a large number of cases, 100 out of 520, the weighted average is influenced greatly by the SwRI estimate of $335.00 per case. The least amount recorded per case was $79.00 and the greatest amount was $2500.00. With experience by the investigating teams, it is believed that the cost per case could be reduced below the weighted average. With a briefer "Collision Analysis Report Form," an existing team should be capable of collecting adequate data at a cost of less than approximately $200.00 U.S. per case.

An encouraging response to the general questionnaire was that 23 out of the 24 respondents replied affirmatively to the question of program continuation. Most of the teams felt, however, that they needed additional training and a user manual with which to complete any accepted accident reporting form.

CARF Modification Questionnaire

In addition to the questionnaire, comments were solicited regarding modifications to the yellow-covered CARF. The question "How would you, as a team of investigators, the manufacturer, or as a Coordinating Panel representative of your country, design a "Collision Accident Report Form?" was asked. The recipients were requested to revise a yellow-covered CARF to reflect the objectives and needs of their own operations by (1) deleting all items which should not be included in the form, (2) adding any important items not previously included, and (3) ascertaining whether interpretation problems exist for existing questions. The information obtained in response to these questions was used

TABLE 35. RESPONSES FROM TEAMS ON CARF

Country/Team	CARF Changes	Remarks
Belgium	Yes	None
Canada		
Ottawa	Yes	None
Ecole Polytech	No	Several comments and questions on the yellow CARF
U. of New Brunswick	Yes	None
U. of Toronto	Yes	None
U. of Alberta	Yes	Several notations in CARF
Federal Republic of Germany		
Ford	Yes	Supplementary sheets with CARF mods.
U. of Heidelburg	Yes	Proposal for a short form and a comprehensive medl. form
Volkswagen	No	Separate proposition for mod. CARF
Daimler Benz	Yes	Detailed comments and proposal for mod CARF
France		
ONSER	Yes	Extensive comments and discussion
Peugeot Renault	Yes	Proposal for new Accident Report
Italy	Yes	Proposal for new Accident Report and vehicle data summaries
Netherlands	Yes	Comprehensive comments and proposed revisions
Sweden		
Volvo	Yes	Volvo accident report form
United Kingdom		
Birmingham U.	Yes	Comprehensive comments and discussion of methodology
Transp. and Road Res. Lab.	Yes	Extensive comments and discussion
United States		
HSRI	Yes	Extensive comments
U. of Miami	No	Modified environment section
U. of Southern Calif.	No	Several comments
U. of New Mexico	No	Several comments
SwRI	Yes	Summarization

as a guide to the construction of a new form. Table 35 lists the teams from which responses were received. Most teams contributed some information to this element of the program. A few did not. The format in which the comments and data were received varied extensively, and there was very little commonality between teams and nations.

Modified CARF

The intention of this aspect of the program was to use the results to prepare an acceptable modified "Collision Analysis Report Form." Although the task was complicated, a form was evolved. The new form was presented at the June 1973 workshop. Comments and discussion on the final form were solicited from teams to be received by SwRI by the end of July 1973. These comments plus comments made by the teams at the workshop were incorporated into the final version of the accident report form. Volume III contains the form and an associated usage manual.

As individual participating teams in subsequent accident investigation programs gain experience in accident investigation, new data needs will become apparent. Perhaps the first to feel these needs will be teams representing the automotive industry. The proposed form, contained in Volume III, is designed to serve as the foundation module for a modular in-depth accident reporting protocol. Other modules, constructed to address specific problems, can be attached to the basic form. The automotive-oriented teams may desire, for example, to attach questions that would permit them to assess specific automobile problems such as nonuniform loading of energy-absorbing column-equipped steering wheels in certain types of accidents, fire damage to vehicles, injury assessment relative to the installation of new components in the vehicle interior or others.

Small-scale studies requiring only minor expansion of the proposed modified CARF will probably be handled more efficiently and cost effectively by individual teams or nations. As confidence is gained in the overall program, however, general user needs are expected to create the necessity for modification of or expansion of the form on a universal basis. It is reasonable to assume that such changes will be accomplished, and the fact that the protocol and associated analysis programs will be revised periodically should be accepted at the outset.

When the time comes for the basic program to be expanded, the contents of the expansion modules will definitely be determined by the questions that must be answered. The structure of the file will be dictated in part by the capacity of the computer system upon which analysis is to be accomplished. In addition, new elements added to the questionnaire will be added only if it is anticipated that they will have analysis of value.

SUBMISSION OF CASE REPORTS

During the case study phase, a total of 528 books were completed. Of this total, 167 were in the blue CARF format and 361 in the yellow. Although the blue forms were available early in the program, more teams used the yellow form (32 teams) than the blue (14 teams) because the first investigation by many teams came after the yellow form was printed and distributed. Since immediate adoption of the yellow CARF by all teams was recommended upon its issue on December 1, 1971, most teams made the transition from blue to yellow CARF without difficulty.

Of the case reports received by SwRI, ultimately five of the blue and three of the yellow books were rejected for inclusion in the data files because of insufficient or inapplicable information in the report form. Table 36 summarizes the performance of the teams. Actually, the forms were received by mail in three different CARF revisions: the November 10, 1970 "green book," the April 1, 1971 "blue book," and the December 1, 1971 "yellow book."* The data on all books will reduce the punched card images. Prior to this reduction, all data in the "green books" (14 books) were manually transferred to "blue books" due to the similarity in format. As 167 of the forms were in the "blue book" format, a computer program was written to convert the data from the "blue" format to the "yellow" format. The remaining 361 reports were received in "yellow" format.

Reviewing Procedure

Upon receiving the reports, the number and format from each team were recorded on a summary sheet as shown in Figure 1, and each report was assigned a 9-digit code for identification purposes. Thus, for any particular analysis those reports applicable could be listed by the computer which would allow any questionable data to be reviewed by looking at the original report forms if necessary. The 9-digit code included a 4-digit team number, a 3-digit sequential number, and the last two digits of the year of the accident. A code number appeared on each report and its corresponding computer punch cards. No two reports had the same number. The progress of each report as it was reviewed, corrected, keypunched, and put on computer tape was kept in the summary sheet with its corresponding report number.

As 77 of the "blue books" and 85 of the "yellow books" were received on microfiche, microfiche readers were required for both data reviewing and keypunching. Also 30 reports were received in a language other than English, and the "Description of Collision Events," page 6, "Yellow" format, was translated before they were reviewed and keypunched.

Trained personnel reviewed each accident report to check for consistency and proper interpretation of the questions before the data were keypunched on computer cards. Of the seven reviewers, five had greater than one year's experience working with the similar "General Motors Collision Performance and Injury Report," Long Form, Revision No. 3, and were considered adequately knowledgeable in this area. Two additional personnel were trained for the reviewing process, and their work was checked periodically to maintain as high a level of quality assurance as possible.

For an accident investigation case to be acceptable for entry into the data file, the reviewer satisfied himself that the information (data and narrative) were reasonable and conformed to certain established standards. Each card column entry was checked with other data in the report whenever possible to confirm its validity. Pictures and other reference materials were used to confirm vehicle damages or suspicious weights or measurements, etc. An example of how a review might proceed in the "Yellow" book is given in part below:

> Page 2, the "report code" must agree with the number assigned on the front cover or page i; the year of the "date" must agree with the last two digits of the "report code number"; page 3, the "collision configuration" must indicate the first collision only as outlined on the "collision sketch" and in the "collision description"; page 4, the "objects contacted" must be in order and agree with the "collision sketch" and "description"; page 5, "personal injury" indicates "occupant injury detail" is filled out in the back; page 8, vehicle 5-digit code plus left/right-hand drive designator must be entered in last six digits of "VIN," "model year" must agree

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*Throughout this report, the three CARF's will be identified and referred to as "green," "blue," and "yellow."

TABLE 36. NATO/CCMS– ACCIDENT INVESTIGATION SUMMARY OF REPORTS RECEIVED–FEB. 20, 1973

Team Country and Name	Total
Belgium	
Team No. 1	14
Subtotal	14
Canada	
Ecole Polytech	11
Ottawa DTS	32*
Magill University	24*
Univ. of New Brunswick	12
Univ. of Toronto	21
Univ. of Alberta	6
Univ. of Aaskitohewan	2*
Subtotal	108
Federal Republic of Germany	
Ford (Cologne)	6
Opel (Russelsheim)	11
Univ. of Heidelburg	7
Volkswagen (Wolfsburg)	10
Daimler Benz (Stuttgart)	12*
Subtotal	46
France	
Peugeot Renault	15
ONSER	34**
Subtotal	49
Italy	
Fiat (Turin)	18
Alfa Romeo (Milan)	14
Lancia (Bologna)	21
Subtotal	53
Netherlands	
SWOV (The Hague)	41
Subtotal	41
Sweden	
Volvo (Gothenburg)	19
Subtotal	19
United Kingdom	
Birmingham Univ.	41
Transport and Road Res. Lab.	25
Subtotal	66
United States	
Boston	3
SwRI (San Antonio)	102**
Univ. of New Mexico	3
Rochester Univ.	3
Cornell Aero Lab.	3
Highway Safety Res. Inst.	3
Univ. of Miami	3
Univ. of So. California	3
Georgia Tech (Atlanta)	3
Utah Univ. (Salt Lake City)	3
Indiana Univ. (Bloomington)	3
Subtotal	132

*Indicates rejected cases

with "VIN," "weight," "odometer reading," and "speeds" must be in metric system, "body style" must agree with pictures, "body structure" must agree with manufacturer reference manuals if available, "number of occupants" must agree with number of "occupant information" pages filled out, "vehicle loading" must agree with "number of occupants" and "model" of vehicle; page 9, convertible top must agree with pictures, "case vehicle deformation index," "sheet metal damage" and "crush" must agree with photographs and "exterior damage" sketch. The rest of the CARF was reviewed in a similar manner.

Some of the references used during the reviewing procedure are outlined below:

(1) Society of Automotive Engineers Technical Report J224a, "Collision Deformation Classification," for coding the vehicle deformation index.

(2) Automotive News, "Major Specifications for U.S. and Imported Makes," for coding vehicle weights and dimensions.

(3) Motor Vehicle Manufacturer Association 5-digit Vehicle Make and Model Codes, for coding of the same.

(4) National Automobile Theft Bureau, "Motor Vehicle Identification Manual," for identification of unknown vehicle makes and models through use of vehicle identification number.

(5) Society of Automotive Engineers Report 710873, "Field Application and Research Development of the Abbreviated Injury Scale," for coding the abbreviated injury scale.

(6) Report Photographs supplied by the Accident Investigation Teams, for visual confirmation of certain data, i.e. vehicle damage.

(7) Tables in the "NATO Collision Analysis Report Form," concerning the Vehicle Interior Deformation Index (VIDI), Engine Compartment Telescoping Unit and Steering Column Energy Absorbing Device, for coding of the same.

As the inconsistencies or errors were discovered, a single line was drawn through the incorrect answer and the correct answer was written to the side so the correction could be reviewed if necessary. As reports reviewed on microfiche could not be corrected directly, a form (Figure 2) was used to indicate the correct entry with the report, page, card and column numbers recorded for identification purposes. The keypunchers in turn used these forms while punching the microfiche reports in order to correct any errors found during the reviewing process.

In addition to recording the progress of the reports on the summary sheet, each CARF booklet was coded on the front cover next to the 9-digit report number. This provided a backup system to the summary sheets which were not always available to each reviewer as he finishes his booklets. A letter "C" indicated "Corrections Made," through page 30, "Yellow" format; "M" indicated "Medical or Occupant Section Reviewed"; "E" indicated

"Errors Recorded"; and "P" indicated "Keypunched." The medical or occupant section was reviewed separately from the rest of the report as it required additional knowledge or training. The errors were recorded on a form (Figure 3) designed to record the number of times each team made errors in certain sections of the booklets.

The keypunching was verified by a second keypuncher, and the data were then subjected to 27 self-checking program statements by the computer, e.g. if a door opened during the collision sequence, then the continuity of the side structure was not maintained. If these two questions were not answered appropriately, the computer would print the error and then continue its review. Each of the computer-listed errors was examined by SwRI personnel, the data manually corrected, and the self-checking program rerun. Approximately 1 to 2 errors were found per report on the average by the computer. Once these errors were corrected, the reports were put in numerical order and stored on magnetic tape.

Team Code (enter the no. we assigned, 6109, etc.)	Country	Team (abbrev. name of team)	Case No.	Form (B for Blue Y for Yellow)	Received on Microfiche (Yes or No)	Hand-Corrected (Yes or No)	Keypunched (Yes or No)

SAMPLE

FIGURE 1. CHECKLIST FOR NON SwRI CASES

Page No.	Card No.	Card Col. No.	Should Read

SAMPLE

FIGURF 2. SAMPLE CASE STUDY

Col. Nos.	Team No.			
1-5	9999 11	8888 1111	7777 1	etc.
6-7	9999 1	7777 11		
8-12	8888 1			
13	7777 11			
14-19				
Etc.				

Marks under a team's number indicate the number of reports it submitted with errors on the page and column numbers indicated (e.g., team 9999 submitted two reports with errors on page 99, columns 1-5).

SAMPLE

FIGURE 3. SAMPLE PAGE

Problems Encountered

It was discovered that additional revisions to occupant injury card numbers would be required in the "blue book" if more than four occupants were in the vehicle, and six reports were omitted for that reason. Also one case vehicle was a large truck and that report was also omitted.

Upon reviewing a few cases, it was discovered that the basic form contained several typographical errors. These are summarized below:

Blue Book:

- pg 10, cols 1-7: These column numbers needed to be changed to 33-35 in order to correspond to the previous page's column numbers.
- pg 53, cols 10-11: The card numbers on the injury grid pages should have started with 15 instead of 14 as the four occupant sections were card nos. 11-14.

Yellow Book:

- pg 9, cols 63-69: These columns needed to be added as there were no columns provided for "Repair Cost." Cols 63-67 were used for the amount and cols 68-69 were used for the monetary unit designator so the computer could change all currencies to the same denomination for analysis.

General:

- Dimensions in these books were supposed to have been in the metric system; however, in many instances, they were in the English System and needed to be converted. This was tedious as the only way to catch this type of error was to see if the dimension seemed to be of the wrong order of magnitude by an amount equal to the proper conversion factor. Also the A-dimension (pg 22, cols 22-24), Steering Wheel EA Device (pg 20, cols 70-75), and Steering Column EA Device (pg 23, cols 27-29) dimensions were converted to or recorded in centimeters instead of millimeters as the "yellow book" lacked enough columns to handle moderate or large deformations ⩾ 100 millimeters.
- In order to identify the make and model of the vehicles, the General Motors 5-digit make-model code was used with an additional, sixth digit, to code left- or right-hand drive. This 6-digit code was entered in the last six digits of the VIN or serial number of the vehicle, pg 8, cols 21-26 "yellow book," and pg 6, cols 21-26 "blue book."
- A Southwest Research Institute VDI was added at the end of the consensus VDI in order to allow for additional analysis in this area, pg 12, cols 46-54 "yellow book," pg 10, cols 54-60 "blue book."

Before reviewing the most frequent misinterpretations and inconsistencies of the NATO Collision Analysis Report Form, the topic of interpretation and consistency should be discussed. In any form of data analysis it is, of course, best to have undisputably correct raw data. This, however, is the "ideal" and usually not what is obtained. One person's definition or interpretation of a definition of an occurrence can be considerably different from another's. This difference in interpretation accounted for many of the errors discovered in this study. No matter what interpretation is used, it must be used with all the raw data or else comparisons will be misleading or false. The occupant numbering system is an example of an area where overall inconsistency was noted. Various occupant numbering systems were adopted by the different accident investigation teams. One standard system was established therefore, by SwRI to simplify data reduction and retrieval. Those teams that did not conform to this system were cited for an "error" in occupant numbering.

The following discussions are intended to point out the most frequent errors (greater than 75 occurrences) found by SwRI reviewers. Many instances reflect SwRI's interpretation of the question, and not the team's inability to fill out the CARF properly. After the topic heading, the corresponding "yellow" and "blue book" page and column numbers will be listed in the following manner: (8: 21-26/6: 21-26) which indicates "yellow book" page 8, columns 21-26 and "blue book" page 6, columns 21-26.

Report Code No. (2: 1-9/2: 1-9): The blanks should always be filled in as previously described for identification purposes.

Collision Configuration (3: 42-50/3: 36-44): This section was used to describe the initial collision event only. Only one configuration should be indicated in the first four questions unless the vehicle ran off the roadway completely without returning to the roadway and then rolled over and struck an object or vehicle. In those cases two configurations, "Ran Off the Roadway" and a second should be used. Both vehicles in a "rear-end" type collision received the same "rear-end" designator even though the damage was in the front for one vehicle, and in the rear for the other. The same applied for all "Vehicle to Vehicle" designators as they described the type of collision, not vehicle damage.

Objects Contacted (4: 51-56/3: 45-52): This section indicated the objects contacted in the order contacted with the "none" indicator used to fill in any unused spaces. It also indicated if there were any secondary collisions since the "Collision Configuration" only indicated the first collision. If a tree were contacted after a sideswipe collision, this section would be marked "other automobile," "pole or tree," and then "none."

Case Vehicle Deformation Index (9: 12-29/6-8: 55-68): Due to the complexity of this section, further analysis is required, and the results will be included in the final report.

Sheet Metal Damage and Crush (9: 30-53/13: 12-35): This section reported *impact* damage to the vehicle from any collisions occurring in the accident. If the first letter of the VDI was "F" then "Front" damage was marked "yes" and the corresponding crush in cm was filled in below. "Left" or "Right" side damage could also be filled in if it were a corner impact; however, if the side damage were induced from a straight front-end deformation, it was not recorded.

Vehicle Interior Deformation Index (11: 12-18/none): This page was left blank in most instances. The instructions on page 11 "yellow book" are self explanatory. Although this is a relatively new area of study in accident investigation, the correlation of injuries and deformation to the passenger compartment should prove very useful in future car design.

Exterior Deformation VDI Consistency Study (12: 19-45/10: 33-53): This page also was left blank in most instances of recorded errors. The "consensus rating VDI" also sometimes disagreed with the recorded VDI on page 9 in the "yellow book." The importance of two investigators evaluating the VDI cannot be overemphasized. It not only assures a more accurate VDI entry, but also points out problem areas when the two investigators disagree.

Column Movement (22: 22-25/18: 20-24): Again these blanks were many times not filled in. If the A-Dimension was not known, in the "yellow book" the blanks should have been filled in with the appropriate "unknown" symbols (9's and 0's). Although the steering column energy-absorbing device measurement denotes movement within that device, it does not necessarily indicate forward or rearward movement of the steering wheel relative to the backlight as the entire steering column (including the EA Device) could be displaced forward or rearward. Thus, this measurement is critical. On older automobiles not equipped with EA devices, it is the only indication of steering wheel movement. In addition, it gives a good indication if the EA device is efficient enough to prevent rearward displacement of the steering wheel in severe collisions.

Windshield, Popped Out (24: 43/24: 35): This question could not be answered "yes" or "no" unless the windshield was the pop-out type. If it were not the pop-out type (most instances), it was filled in with a "3" for "not applicable."

Left and Right Side Interior Instrument Panel, Other (25: 76-77, 29: 61-62, 30: 38-39/25: 37-38): This space was for additional occupant compartment "hardware" that may have been contacted by an occupant or damaged during the collision. It could have included items such as tape decks, compasses, bottle holders, etc. and should have been filled in whenever necessary. When no other "hardware" was involved, the blanks were filled in with "3's" for "not applicable."

Damage to Seat Adjusters (27: 43-46/21: 44-47): The blanks in this section follow a sequence such that if the answer to the blank "damage" is "no," the "type of damage" would be "none" filled in *both* spaces. Also, if the answer to the blank "separation" is "no," the "location of separation" would be "not applicable."

Rear Seat Back Locks (28: 16-19/22: 69-72): The rear seats in most vehicles were "fixed" without movable backs; hence, this question should have usually been answered with "3," for "not applicable."

Backlight (rear window) (28: 23-25/24: 45-48): As with the windshield, only a pop-out type backlight can pop out. Nonpop-out type backlights should be answered "not applicable," or "3." Also, if there is an occupant in the vehicle, the occupant contact question in this section can never be answered "not applicable" unless there is no backlight equipped in the vehicle.

Windows Closed at Time of Collision (28: 28-34/none): The question missed most often in this section was by improperly coding the backlight, "closed," instead of "not applicable" when they were not movable-type backlights.

Left Side and Right Side Structure (29: 35-52, 30: 12-29/23: 17-30, 24: 37-44): Two errors were predominant in this section. The first was not utilizing the rear door question for rear door *area* in 2-door vehicles, and the second was not coding "Glass Between C and D Pillars" "not applicable" for sedans. This last question was for stationwagons and vans only.

Restraint Separation (32: 41-43/none): When restraints in this study were not in use, they could not separate, and these questions were answered "not applicable" or "3."

Attenuator (32: 44-45/none): None of the vehicles were equipped with attenuators on the lap or shoulder belts; so the code "98" was used for "not applicable." "99" was needed for "unknown," and "00-97" was reserved for the number of strands broken if an attenuator was present.

Type of System Used (32: 46/none): This question, as indicated by the title, was to indicate the type of upper restraint system *used* and hence was coded "3," or "not applicable" if the upper torso restraint was not worn.

First Aid (33: 49-53/34: 42): Some of these questions were left blank. Also, "not applicable" was used for "First Aid" and "Treatment at Scene" when the occupant was indeed injured. In this situation, an "unknown" would be correct. Many cities are becoming more and more interested in how fast and how well care can be administered to victims in emergency situations. The use of paramedical teams based out of fire department stations which would be on call 24 hours a day and able to administer treatment other than first aid is under consideration. This question can give valuable information to this area of endeavor.

Postcrash Rescue (33: 54-58/none): Again many spaces were left blank in this section. When two or three choices are given to a question and they are not all used, the remaining blanks must be filled in with "not applicable" or "none," whichever is available.

Fire Control, Submission, and Fire Protection Equipment Used (33: 59-61/none): This question was interpreted as using "not applicable" or "3" whenever there was no need for the above-mentioned equipment. If the need was there and it was not used, "no" or "2" would be the proper answer, and if it were used, "yes" or "1" would be the correct answer.

Occupant Number (37: 12-13/53: 12-13): Although understandably with different numbering systems, these occupant numbers may have been entered wrong, the bigger error was not entering them at all. This would not allow the computer to match the injuries indicated with the proper occupant.

Overall Injury to Region (37: 22/53: 22): This code must be equal to the greatest individual severity code under the classification of injuries to the right of the region code. Occasionally, the region code was not filled in.

Severity Codes (37: 23-34/53: 23-34): These codes were many times not entered, although the injuries were indicated on the injury diagrams. This is one of the most important sections of the CARF and accurate reporting in this area is essential. Continual referral to the SAE "Field Application and Research Development of the Abbreviated Injury Scale" may be necessary to attain a high degree of expertise in assessment of injury codes. Without knowledge of injuries received, accident investigation would be little more than a tabulation of the type of accidents and vehicle damage that occurred and not a "true" measure of accident severity, which necessarily includes human suffering and loss.

After a few weeks of reviewing CARF's, a letter was sent to each team depicting some of the more common errors noted at that time. The purpose was to hopefully decrease the number of errors received and the reviewing time required by dealing with the source of the problem. Although the results were not immediate, it was believed the letter and increased team expertise did reduce the number of errors in the reports.

Conclusions and Recommendations

Each team has received an error tabulation sheet summarizing the number of times that team made errors in each section of questions (listed by page no. and card column). Only one error was counted per report in a section of questions even if more than one question in that section or group of questions was missed. Sections were chosen for error tabulation rather than individual questions as many questions covered the same subject, and missing one question on that subject could very likely mean another question would be missed because of it.

An attempt was then made to determine the average efficiency level with which the teams filled out the "Blue" and "Yellow" CARF's. As errors were recorded in sections, a listing of the number of times teams missed one or more questions in a section was determined.* This was then converted into an average percent of errors committed by all teams: that is, the total number errors found divided by the total number of sections reviewed (no. of reports reviewed × no. of sections per report). It was determined that both the "yellow" and "blue" books had 14.4% errors by sections or 85.6% efficiency. This indicates the difficulty of filling out the two forms was similar. This is logical since the material content was very similar, even identical in many instances. It was also noted that there was a close similarity in the questions missed in each revision except for those typographical errors particular to each book.

There were no major problems in the overall reduction of these data. The "NATO Collision Analysis Report Forms" were easy to read and understand and had a format readily adaptable to being punched on computer cards. The two areas of improvement that are suggested for any continuation of this study, however, are to receive all data in the *same booklet edition* (not microfiche or different formats) and make accessible to all team members a manual with complete and accurate interpretations for each question.

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*See Figures 4 and 5.

Page	Column	No. of Errors	Page	Column	No. of Errors	Page	Column	No. of Errors
2	1 - 9	99	15	15 - 22	4	22	64	1
2	12 - 17	2	15	23 - 25	6	22	65 - 66	2
3	36 - 44	48	15	26 - 29	6	22	67 - 68	11
3	45 - 52	61	15	30 - 32	16	22	69 - 72	77
4	70 - 71	9	15	33 - 34	21	22	73 - 75	3
5	All	37	15	35 - 36	15	22	76 - 79	14
6	12 - 20	28	16	37 - 45	19	24	31 - 34	40
6	21 - 26	105	16	48 - 54	4	24	35 - 36	58
6	27 - 31	91	16	55 - 56	8	24	37 - 44	9
6	34 - 43	34	17	57 - 58	2	24	45 - 48	55
6	44	7	17	59 - 60	4	24	49	40
6	46 - 48	3	17	61 - 62	1	25	12 - 36	10
6	49 - 54	21	17	63 - 64	3	25	37 - 38	56
6	55 - 63	21	18	12 - 14	12	26	39 - 50	15
7	57 & 64	11	18	15 - 19	34	26	51 - 61	16
7	58 & 65	17	18	20 - 24	24	26	62 - 64	7
8	All	28	19	25	9	26	65 - 73	21
9	12 - 15	18	19	26 - 28	22	33	12 - 13†	67
9	17	2	20	29 - 31	21	33	14 - 16	11
9	18	2	20	32	13	33	17 - 27	11
10	33 - 53*	67	20	33 - 35	22	33	34 - 39	9
12	All	53	21	36 - 37	13	34	40 - 41	12
13	12 - 35	102	21	39	4	34	42	5
13	36 - 42	10	21	40 - 41	4	34	43 - 44	29
13	43 - 45	14	21	42 - 43	2	45	Info. Source	31
13	46 - 53	0	21	44 - 47	32	45	Occ. Position	1
14	54	2	21	48 - 49	14	46	Info. Source	27
14	55 - 62	16	21	50 - 51	7	46	Occ. Position	8
14	63 - 66	4	21	52 - 54	27	53	12 - 13	52
14	67 - 74	1	21	55 - 56	20	53	14 - 21	39
14	75 - 78	10	22	57 - 59	8	53	22	76
15	12 - 14	10	22	60 - 63	24	53	23 - 34	60

*Change in column numbers required on concensus VDI.

†All subsequent errors were counted no more than once for each report even if they occurred on more than one occupant page in that report.

FIGURE 4. NATO COLLISION ANALYSIS REPORT FORM ERROR TABULATION–TOTAL FOR ALL TEAMS
(Blue Book)

Page	Column	No. of Errors	Page	Column	No. of Errors	Page	Column	No. of Errors
1	All	53	18	58 - 60	45	27	61 - 64	30
2	1 - 9	100	18	61 - 68	47	28	65 - 70	84
2	12 - 17	19	18	69 - 70	46	28	71	27
3	42 - 50	156	18	12 - 14	27	28	14 - 15	31
4	51 - 56	157	18	15 - 18	21	28	16 - 19	114
5	78	18	18	19 - 21	50	28	20 - 22	2
6	All	20	18	22	17	28	23 - 25	87
8	12 - 26	240	19	23	1	28	26 - 27	12
8	29 - 46	62	19	24 - 39	29	28	28 - 34	90
8	47 - 48	13	19	40 - 42	43	29	35 - 50	78
8	49	7	19	43	75	29	51 - 52	13
8	50	10	19	44	5	29	53 - 60	33
8	51 - 53	10	19	45 - 52	14	29	61 - 62	160
8	54 - 56	17	19	53	25	30	12 - 29	75
8	57 - 61	2	19	54 - 57	12	30	30 - 37	34
9	62	1	20	60 - 66	12	30	38 - 39	183
9	12 - 29	90	20	67 - 76	48	30	40 - 43	6
9	30 - 53	152	22	12 - 13	3	32*	12 - 13	129
10	All	31	22	14 - 21	19	32	14 - 18	25
11	12 - 18	93	22	22 - 25	100	32	19 - 22	10
12	19 - 45	118	23	26 - 29	41	32	23 - 28	38
13	12 - 14	8	23	30 - 32	46	32	30 - 37	33
13	15 - 16	4	24	33 - 34	59	32	38 - 40	14
13	17 - 18	6	24	35 - 37	26	32	41 - 43	99
13	19 - 20	10	24	38 - 40	4	32	44 - 45	245
13	21 - 22	4	24	41 - 42	36	32	46	85
14	23 - 29	30	24	43	94	32	47†	23
14	30 - 34	24	24	44 - 45	62	33	47 - 48	5
14	35	11	24	46	44	33	49 - 53	138
14	36 - 38	21	24	49	40	33	54 - 58	140
14	39 - 42	45	25	50 - 75	35	33	59 - 61	119
16	12 - 14	3	25	76 - 77	178	33	62 - 63	11
16	15 - 31	38	26	12 - 25	11	33	64	35
16	32 - 33	28	26	26 - 37	54	34	65 - 66	73
17	34	73	27	38 - 40	17	34	67	70
17	35	15	27	41 - 42	14	36	Info. Source	19
17	36 - 43	32	27	43 - 46	107	37	12 - 13	149
17	44	40	27	47 - 48	23	37	14 - 21	58
17	45 - 48	29	27	49 - 51	56	37	22	134
17	49 - 55	26	27	52 - 53	13	37	23 - 34	107

*All subsequent errors were counted no more than once for each report even if they occurred on more than one occupant page in that report.

†This refers to the "child restraint" question under "*Occupant* Information".

FIGURE 5. NATO COLLISION ANALYSIS REPORT FORM ERROR TABULATION–TOTAL FOR ALL TEAMS
(Yellow Book)

DATA HANDLING AND ANALYSIS

The computer-based data handling and analysis system permits a variety of statistical analysis techniques on the data, and any combination of variables concerning the accident configuration, vehicles, and occupants may be studied.

The statistical profiles presented in a subsequent section are derived from a sample of 520 cases taken from nine participating countries. Because of the relatively small initial sample size, any conclusions drawn from this preliminary analysis will have limited validity with respect to the actual international accident and injury frequencies of various types. The data to be presented should be regarded as a sample of the types of information available from such an international cooperative effort and as examples of ways to utilize the information. This preliminary data analysis also constitutes a final test of the CCMS/NATO Accident Investigation Pilot Study and, in the opinion of Southwest Research Institute, it does show that useful data can be obtained from a joint study of this type at a much lower cost than obtainable by any single country.

Team Coding System

In order for the analysis group to be able to distinguish between the cases on the files submitted by different organizations and yet permit individual teams to maintain anonymity, a coding system for the case reports was devised. The coding system assigned a unique four-digit number to each accident investigation team for up to 100 teams from each of 100 countries. Code numbers were randomly assigned to the participating countries. The assignment of the code numbers was made by drawing four-digit numbers from a table of random numbers. Each team received a unique four-digit number by which it can recognize its own cases, but it cannot recognize other teams from its own country or from other countries since the code digits are random. For example, two teams from one country might have the numbers 7146 and 3215, while a team from another country might have the number 7147.

Computer Programs

A number of computer programs were written or adapted for use in various phases of the data reduction. These programs are presented and discussed in Volume II. The names of these programs are: BLUCON, EDICAR, SELECT, BMD04D, BMD05D. BLUCON was written to adapt the data punched from the blue CARF into a form compatible with the yellow CARF format. Various editing statements were incorporated into the BLUCON program. A more comprehensive editing program, EDICAR, was written to reduce manual editing demands. The EDICAR program also stores the corrected data from the yellow CARF's and the converted blue CARF's on magnetic tape. The major editing procedures are described in Volume II.

The magnetic tape which evolved from the EDICAR program contains all of the basic data from the pilot study accident cases. It was this tape from which the data subsets were constructed. The data subsets are those which were used to develop descriptive statistical charts and tables. The computer program SELECT was written to select or filter out values of certain variables needed to construct the data subsets. Selected programs from the Biomedical Data package (BMD) were adapted for use in this project. The program entitled BMD04D was used to obtain the alphanumeric frequency count of selected single variables in a single column. BMD05D program was used to obtain a histogram of these variables. Examples of the output are shown in Figures 6 and 7.

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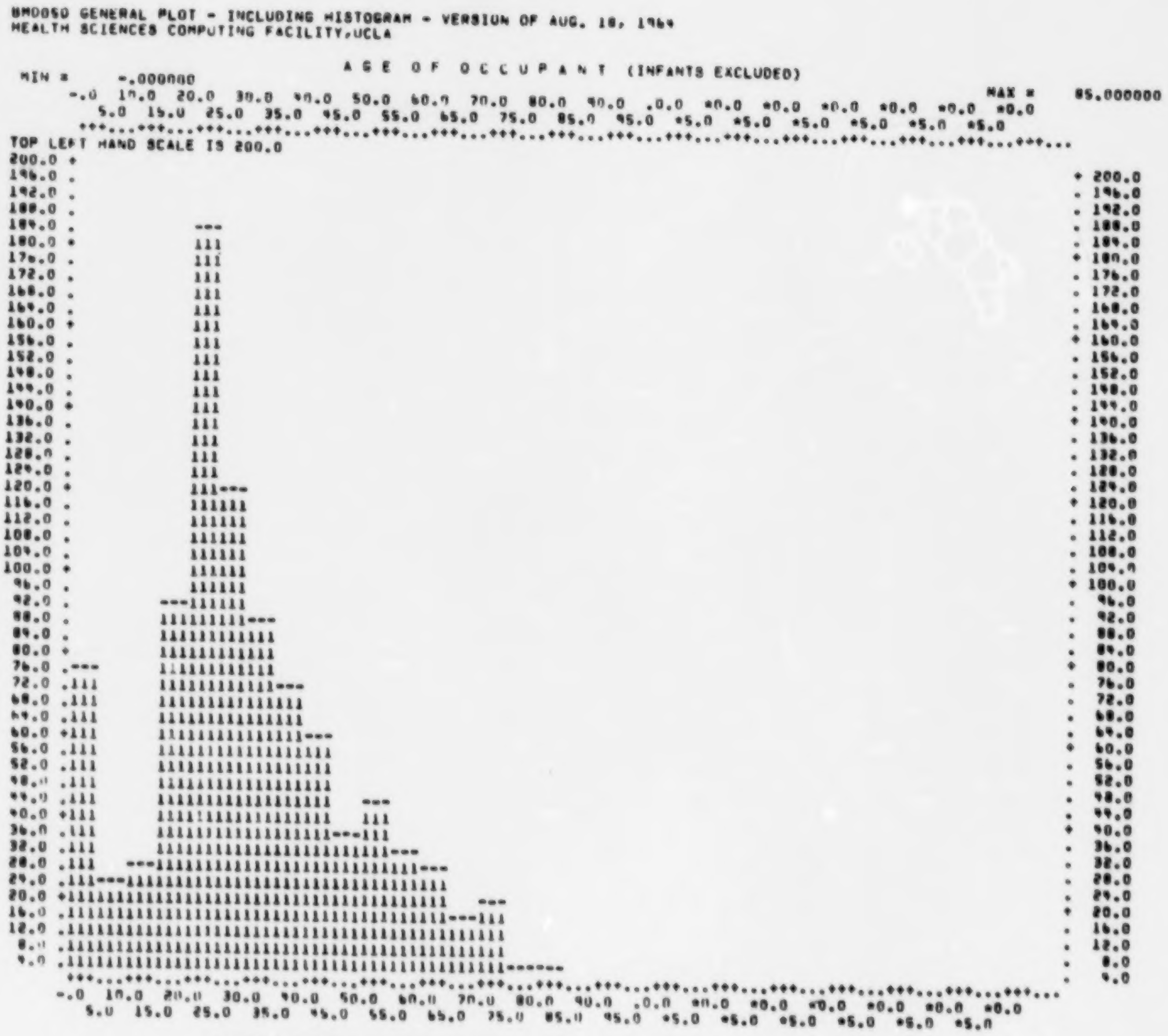
```
BMD04D - ALPHANUMERIC FREQUENCY COUNT - VERSION OF  MAY  22, 1966
HEALTH SCIENCES COMPUTING FACILITY, UCLA
PROBLEM CODE V.1-67
NUMBER OF OBSERVATIONS =    520

*  VARIABLE NUMBER     1  **  VARIABLE NUMBER     2  **  VARIABLE NUMBER     3  **  VARIABLE NUMBER     4  **  VARIABLE NUMBER     5  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     *
*                         **                         **                         **                         **                         *
*     0         36        **     0         23        **     0         29        **     0          9        **     0        296        *
*     1         61        **     1         40        **     1         28        **     1         35        **     1         31        *
*     2        164        **     2         66        **     2         58        **     2         43        **     2          2        *
*     4          9        **     4         27        **     3         28        **     3         59        **     3         11        *
*     6         81        **     5         56        **     4        200        **     4         51        **     4         28        *
*     7         66        **     7         36        **     5         28        **     5         37        **     5          2        *
*     8         24        **     8        171        **     6         27        **     6         93        **     6          4        *
*     9         72        **     9         61        **     7         43        **     7        136        **     7          3        *
*   BLANK       11        **                         **     8         32        **     8         57        **   BLANK      143        *
*                         **                         **     9         47        **                         **                         *
                          **                         **                         **                         **                         *

*  VARIABLE NUMBER     6  **  VARIABLE NUMBER     7  **  VARIABLE NUMBER     8  **  VARIABLE NUMBER     9  **  VARIABLE NUMBER    10  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     *
*                         **                         **                         **                         **                         *
*     0         25        **     0         42        **     1          1        **     0          8        **     0        359        *
*     1        132        **     1         62        **     7        519        **     1        308        **   BLANK      161        *
*     2         83        **     2         61        **                         **     2        204        **                         *
*     3         46        **     3         54        **                         **                         **                         *
*     4         21        **     4         53        **                         **                         **                         *
*     5         14        **     5         57        **                         **                         **                         *
*     6         24        **     6         45        **                         **                         **                         *
*     7         15        **     7         54        **                         **                         **                         *
*     8         20        **     8         44        **                         **                         **                         *
*     9         14        **     9         47        **                         **                         **                         *
*   BLANK       20        **                         **                         **                         **                         *
                                                     **                         **                         **                         *
```

FIGURE 6. SAMPLE ALPHANUMERIC FREQUENCY COUNT USING BMD04D PROGRAM



```
BMD05D GENERAL PLOT - INCLUDING HISTOGRAM - VERSION OF AUG. 18, 1964
HEALTH SCIENCES COMPUTING FACILITY,UCLA

                              A G E   O F   O C C U P A N T   (INFANTS EXCLUDED)
 MIN =     -.000000
                                                                                           MAX =    85.000000
TOP LEFT HAND SCALE IS 200.0
```

FIGURE 7. HISTOGRAM OBTAINED USING BMD05D PROGRAM

PRELIMINARY RESULTS FROM INTERNATIONAL TRAFFIC ACCIDENT DATA

Since death and injury are the most unwanted results of transportation system failures, the elimination of them is an often stated goal. It is appropriate, therefore, to develop data which will aid in assessing factors that reduce death and injury in traffic accidents so that specific remedial measures can be affected. Many considerations are needed to interpret results appropriately. The task is compounded when the data are derived internationally because of variations in data collection procedures.

Program Implementation Problems

During the case study phase, the accident investigation teams reported a variety of problems experienced in implementing the program. A general questionnaire was prepared with questions designed to assess the significance of some of the more common problems. This questionnaire was designed jointly by the evaluation subcommittee and SwRI. Subsequently, the questionnaire was distributed among the participating teams, and a request made that the teams respond appropriately. A total of 24 teams complied with the request, and the findings are summarized in Table 37. Team responses to the *identified* problems in the questionnaire were generally useful in the analysis, but the original hope that teams would identify *problems other than those listed* on the questionnaire was not fulfilled. Only three teams reported other problems. Nevertheless, "other problems" are known to exist. Speed determination, for example, seems to be of major importance to all teams, as discussed in private communications with team leaders, yet this problem was identified only one time by one team, and it was indicated by that team to be their most significant problem.

TABLE 37. SUMMARY OF PROBLEMS EXPERIENCED BY TEAMS IN IMPLEMENTING AN ACCIDENT INVESTIGATION PROGRAM

Description of Problem	Weighted Rank	No. of Affirmative Responses	Average Weighted Rank
Summarizing and presenting data	34	10	3.40
Injury data acquisition	31	9	3.44
Getting to the accident scene	28	11	2.55
Getting public support	27	7	3.86
Obtaining vehicle original dimensions and data	23	12	1.92
New team organization	18	10	1.80
Locating Financial Support	17	8	2.13
Police cooperation	17	4	4.25
Vehicle damage assessment	16	6	2.67
Laws and courts	15	9	1.67
VIDI application	5	1	N.S.
Speed determination	5	1	N.S.
Convincing others of value of accident investigation	3	1	N.S.
Changes in program structure	2	1	N.S.
Equipment acquisition	0	1	N.S.

The problems in Table 37 are listed according to their weighted rank. The weighted rank is determined by arbitrarily assigning a value of 5 to the most serious problem listed by a team, 4 to the next most serious problem, 3 to the next, etc. The weighted values for each team reporting affirmatively to a particular problem were then summed to determine the rank of that problem. The problem with the greatest significance, i.e., a large number of affirmative responses in which the problem appeared to be high in the list of importance to the individual teams, was that of "summarizing and presenting data."

Table 37 illustrates another interesting characteristic in that the "problems with laws and in the courts" does not appear to be a serious problem as had originally been anticipated. The average weighted value (weighted rank divided by the number of affirmative responses) was only 1.67, the lowest average weighted value in the top 10 problems. The largest average weighted value, 4.25, was the problem associated with "obtaining police cooperation." "Gaining public support" was second with 3.86. General apathy exhibited by police and the public is a problem typical of existing programs in the United States also, and one requiring particular attention if accurate and useful accident data are to be obtained on any national or international basis.

Sample Validity

Death and injury, in a general sense, usually result from: ejection of an occupant from the vehicle, collision of an occupant with the vehicle interior, or crushing or penetration of an occupant by interior or exterior objects. Several variables thought to represent important factors in collision injury causation and prevention will be discussed. Collision damage will be assessed. The consistency with which different investigators interpret vehicle damage through application of the VDI is also evaluated. The tenor of this section focuses on the feasibility of collecting international data and conducting analyses, not on the characteristics of the results obtained from such a small sample. The number of teams, team composition, and team location were presented in "Organizational and Operational Structure." The criteria for selecting the particular accident or vehicle varied between countries and often between teams within the same country; some teams restricted their investigation to certain vehicle makes or model years while others simply established a minimum amount of monetary damage or occupant injuries about which the vehicle satisfied the requirements for investigation. The analysis is based on a sample of 520 vehicles containing 519 drivers and 397 passengers. The type of loss incurred varied from property damage only to both personal injury and property damage; the latter of which accounted for 90 percent of the total accidents.

One should not attempt to compare this finding to other national or international statistics, since in this case the sample is definitely biased. Most of the accident investigating teams investigated only accidents severe enough to require tow away of the case vehicle or to produce injuries. Thus, the sample is biased toward more severe accidents, and most of these involve both injury and property damage.

Sample Characteristics

Some general characteristics of the accident population investigated will be shown. The sex and age distribution of the drivers in the sample are shown in Figures 8 and 9. Figure 8 indicates that approximately four out of every five drivers in this sample were male. Figure 9 shows that an age distribution of drivers covers an age from 15 to 79 years. The highest frequency of driver ages is in the 20-to 24-year group with 106 drivers.

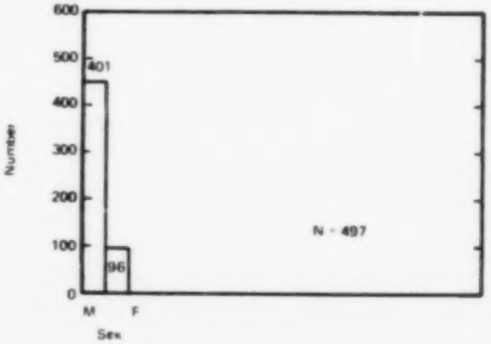


FIGURE 8. DRIVER SEX DISTRIBUTION

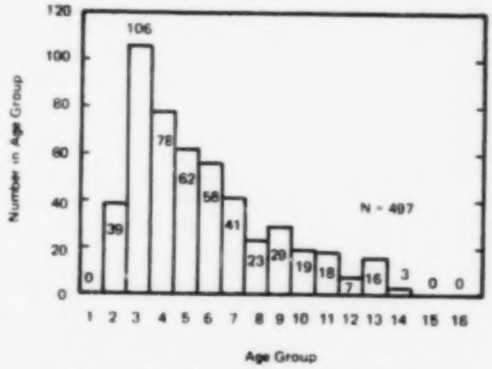


FIGURE 9. DRIVER AGE DISTRIBUTION

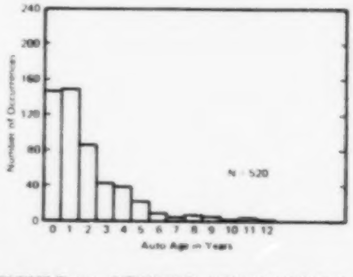


FIGURE 10. VEHICLE AGE DISTRIBUTION

The vehicle age distribution is shown in Figure 10. The age in years is shown along the lower axis. The zero denotes current year models. As the graph shows, most of the vehicles investigated were recent models with only 23 of the vehicles being older than six years. Over half of the vehicles (295) were either current or previous model years.

Approximately 79 percent of the occupants received crash-related injuries, and 52 occupants were fatalities. Fifty-seven of the 916 occupants were either partially or completely ejected from their respective vehicle. The mean injury level based on the Abbreviated

Injury Scale (AIS) ratings* was 1.94 for all occupants in all collisions. Mean AIS ratings were computed for occupants in each model year of vehicle in the sample, however no significant trend appeared which would show either improvement or deterioration of injury severity with vehicle model year.

Restraint Usage and Occupant Position

The lapbelt restraint system was known to be available to 569 of the occupants; however, only 129 or 23 percent of the occupants were wearing them. The upper torso restraint was worn by only 15 percent or 67 of the 440 occupants who were known to have them available. There was one known case in which the driver was wearing the upper torso restraint without the concurrent use of the lap restraint; her injuries were moderate—an AIS rating of 2.

TABLE 38. LOCATION OF OCCUPANTS
BY SEAT POSITION

Seated Position	All Occupants		Restrained Occupants	
	Freq. (Occ.)	Mean AIS	Freq.	Mean AIS
FL				
Driver	430	1.94	71	1.54
Passenger	25	2.24	7	1.54
FLC	0	–	0	–
FC	20	1.95	0	–
FRC	2	4.50	0	–
FR				
Driver	61	2.75	17	1.82
Passenger	185	1.87	28	1.75
RL	52	1.44	1	1.00
RLC	3	2.33	0	–
RC	15	0.87	0	–
RRC	2	0.50	0	–
RR	64	1.28	3	3.33

Occupant injury by seated position and restraint usage is shown in Table 38.

The value of use of the restraint system is obvious in all seated positions, except one: the mean AIS rating of restrained occupants was lower. The exception was the right rear position at which one of the three occupants was killed; this raised the injury level significantly. The mean AIS rating for all drivers, regardless of seated position, was 2.04 while passengers sustained on overall injury level of only 1.71. There were 28 drivers and 29 passengers whose injuries were either unknown or who were injured but whose injury severity was unknown. These occupants are not included in the table. In the study, there were 62 vehicles with right hand drive and it was therefore necessary to distinguish the driver from the passengers for the front left and front right seated position.

The inverse relationship in injury severity for driver/passenger in left hand drive cars relative to driver/passenger in right hand drive cars is interesting and requires further study. A larger sample size and more detailed analysis of the circumstances are needed, however, if implications are to be made. A significant difference in the injury level between the front and rear seat occupants was noted. The front seat occupants, who comprised 84 percent of the 916 occupants, sustained a mean AIS rating of 2.01, while the back seat occupants sustained a rating of 1.30. Obviously, this sample demonstrates the need for improved safety to front seat occupants.

Occupant Ejection

There were 57 known occupant ejections and in 15 instances it was not determined if the occupant was ejected or not. Approximately 70 percent, or 38 of the 57 ejected occupants, were completely ejected from the vehicle while the remaining 19 were only partially ejected. The most prominent area of ejection, either partial or complete, was the left and right side doors with 30 ejections occurring in these locations. Other areas of ejection included: left and right side windows—13 ejections; windshield—11 ejections; rear window—2 ejections; and roof or open convertible—1 ejection. The fatality rate of ejected occupants was high—30 percent, which illustrates the value of keeping the occupants within the occupant compartment. The injury level for ejected occupants, either partial or complete, was 2.3 times as great as occupants who were completely retained within the vehicle, etc., AIS ratings of 4.15 for ejected occupants against 1.79 for nonejected occupants. The partially ejected occupants sustained a higher AIS rating than the occupants who were completely ejected—4.66 and 3.95, respectively.

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*"*The Abbreviated and the Comprehensive Research Injury Scales,*" John D. States, M.D., University of Rochester School of Medicine and Dentistry, published in the proceedings of the 13th Stapp Car Crash Conference, Society of Automotive Engineers, Paper No. 90820, December, 1969, Boston, Massachusetts.

The 57 ejected occupants sustained a total of 74 injuries with an AIS rating of 4 (serious–life threatening) or greater. Approximately 37 percent of these injuries were sustained from the outside surface of the vehicle and/or objects exterior to the vehicle. The steering wheel, instrument panel, surface of side interiors, and windshield accounted for another 38 percent of these injuries.

TABLE 39. FREQUENCY OF FATALITIES BY SEAT POSITION

Seat Position	Frequency	Percentage of Occupants in Each Seated Position Suffering Fatal Injuries
FL	29	6
FC	2	10
FRC	1	50
FR	19	8
RL	1	2
RR	1	2
Other Positions	0	–
Unknown Positions	9	–

Fatalities

Fatal injuries were sustained by 62 or 6.8 percent of the occupants. The seated positions of 53 of the fatalities were known and are shown in Table 39.

For the front left position, 28 of the 29 fatalities were drivers, while in the front right seated position, only 8 of the 19 fatalities were drivers. The data in Table 39 also support the previous contention that rear seats are safer than front seats; note the low percentage of fatalities in rear seats relative to the number of persons occupying rear seats. Considering again, the experience with right and left hand drive vehicles, fatality rates for the drivers in the front left position were 6 percent, while for drivers in the right front seated position rates were 13 percent.

Collision Configuration

There were 126 single vehicle accidents and 337 two-vehicle accidents. Fifty-five cases involved three or more vehicles and two cases involved an unknown number of vehicles. There were 56 recorded accidents involving a stopped vehicle and 334 accidents involving a moving vehicle. In two of the reported accidents, a vehicle struck a pedestrian.

The type of accident or collision configuration and the mean AIS rating for the occupants is shown in Figure 11. Most accident modes shown do not require definition. A ran-off-the-roadway accident is not a collision in itself unless property damage or personal injury occurred when the vehicle struck an obstacle in its path or unless another event occurred after the vehicle left the roadway. The most predominant type of collision is the vehicle-to-vehicle configuration, which comprised 61 percent of the total accidents. The AIS rating for vehicle-to-vehicle collision configuration is lower than vehicle-to-object, rollover, and the ran-off-the-roadway accidents. This trend seems to indicate that a struck vehicle is more forgiving to the occupants of the striking vehicle than some of the fixed objects positioned beside the roadways, whether these objects are thereby designed or otherwise. The vehicle-to-vehicle collision configuration is broken down into head-on, side impact, or intersection collision, sideswipe, or rear impact, and the frequency of occurrence is shown in Figure 12. The sideswipe accidents produce the less severe injury, however. In general, the sideswipe accidents principally involve sheet metal damage with only a minimum of deformation and thus, low level forces. The low frequency of occurrence possibly stems from the fact that a vehicle involved in this type of accident can usually be driven from the scene and, therefore, does not meet specific criteria for some accident investigation teams.

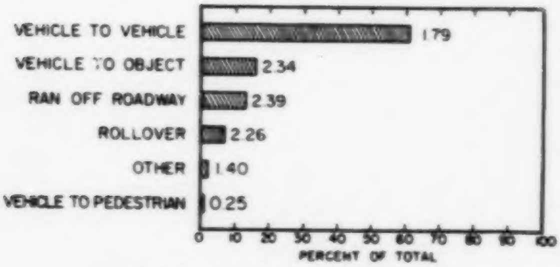

FIGURE 11. ACCIDENT CONFIGURATIONS

Vehicle Weight

The empty weight of the vehicle was classified into one of five groups. Table 40 classifies the weight of the vehicles, the number of vehicles in each particular weight class, the number of occupants in the vehicles in each weight

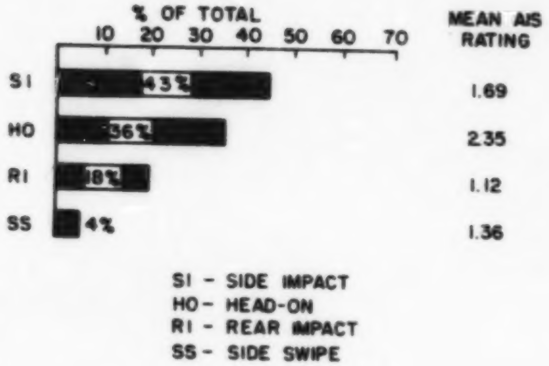

FIGURE 12. VEHICLE TO VEHICLE COLLISION CONFIGURATION

TABLE 40. AIS VS VEHICLE WEIGHT

Vehicle Weight Kg	Vehicles in Category		Percentage of All Occupants in Each Category	Mean AIS	Percentage Fatalities
	No.	Percent			
0 to 999	225	43	43	2.11	11
1000 to 1499	163	31	32	1.77	6
1500 to 1999	112	22	23	1.68	5
2000 to 2499	14	3	2	3.28	28
2500 and over		Not statistically significant			

category, the mean AIS injury severity rating of the occupants, and the percentage of occupants receiving fatal injuries relative to the number of occupants in vehicles in each weight category.

To illustrate, 31 percent or 163 of the 520 vehicles were in the 1000-1499 Kg weight category; 32 percent or 283 of the 916 occupants were in the vehicle at the time of the accident and sustained a mean AIS rating of 1.77. Approximately 6 percent or 16 of the 283 occupants were fatalities. The data indicate that the heavier the vehicle, the lower the injury level and fatality rate. The high AIS rating in the 2000- to 2499-Kg classification can be explained by the unusually high incident of fatalities. Five of the 18 occupants in these vehicles were killed, and four of the fatalities were in a single vehicle. The high ratio of fatalities to occupants is not typical of the general population of accidents involving vehicles in the 2000- to 2499-Kg weight class and the statistics should be disregarded.

Collision Deformation Classification

The Vehicle Deformation Index (VDI)* provides a basis for classifying collision contact deformation; it provides a reasonably acceptable means of quantifying accident-induced damage.

Vehicle damage quantification is important because it permits the analyst to group vehicles exhibiting similar damage patterns into manageable categories. Each of these categories can then be explored for possible injury patterns. In the following examples, only a few of the gross statistics are presented because the size and bias of the sample precludes in-depth analysis. The results are derived from the primary VDI only, although secondary damage was reported for 32 percent of the vehicles in the data file.

Figure 13 illustrates the percent of the vehicles that were struck from the respective o'clock position, and the polar graph in the figure illustrates the mean AIS rating of the occupants. For example, 203 vehicles or 39 percent of the 520 vehicles were struck from the 12 o'clock position and the mean AIS rating of the occupants was 1.81. The most severe injury level occurred when the vehicle was struck from the 10 o'clock position. None of the vehicles in the sample were reported as having been struck from the 4 o'clock position.

Approximately 62 percent of the vehicles were struck in the front and the occupants in the vehicles sustained a mean AIS rating of 1.99. The next highest general area of damage was the left and right side–24 percent. The occupants in these vehicles sustained injuries with a mean AIS rating of 1.91. The highest mean injury level, 3.17, was experienced by the occupants of vehicles in which the damage was listed as unclassifiable. These are collisions in which a vehicle has been grossly crushed and deformed; e.g., train-to-vehicle collision, or, falling long distances off roadways. The "X" or unclassifiable code would be used for these massively deformed vehicles when the other codes are not appropriate. This group composed 2 percent of the total vehicles and 3 percent of the occupants. Occupants in vehicles that sustained

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*The Vehicle Deformation Index (VDI) was renamed in the recently issued SAE Recommended Practice J224a. The subcommittee that drafted the recommended practice suggested that a more descriptive nomenclature might be "Collision Deformation Classification," (CDC). However, the acronyms VDI and CDC are used interchangeably. The classification system permits description of the direction of the applied impact force, the general damage location, the specific horizontal and vertical location, the gross cause of damage, and the extent of damage. A copy of SAE J224a is included in Volume II of this report.

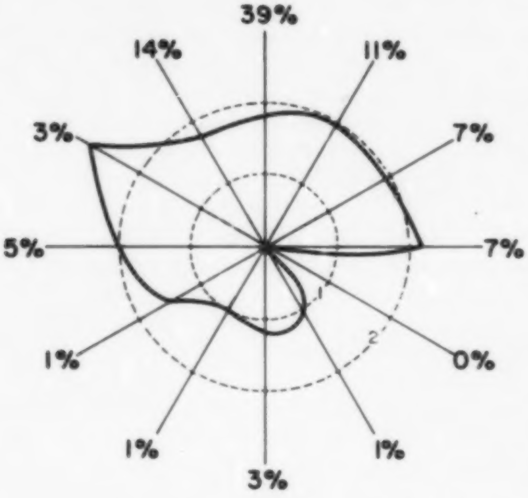


FIGURE 13. AIS VS VDI FORCE DIRECTION

damage to the top, a category with 6 percent of the vehicles and 6 percent of the occupants, had a moderately low AIS rating of 1.46. The back of the vehicle was struck 5 percent of the time and the mean AIS rating for the involved occupants was 1.10. The least struck general area was the undercarriage, 1 percent, and the mean AIS rating for these occupants was the lowest, 1.00.

Injury patterns can become more significant when correlated with specific damage location. Table 41 illustrates the results of an exploratory effort to study injury in relation to the specific horizontal location of vehicle damage.

The largest number, 38 percent, of the vehicles sustained distributed damage about the sides or ends of the vehicle. Surprisingly, the lowest injury level was when the vehicle was struck on either the left or right sides of the passenger compartment; however, this circumstance may be explainable by further study of the extent of damage to the involved vehicles. For example, a vehicle damaged only in the passenger area without front and/or rear quarter panel involvement *usually* does not exhibit severe (high extent) damage. The impact forces are low and so is the resultant injury severity. Notice the higher AIS ratings in Table 41 for vehicles with damage in the B + P or F + P areas. This is consistent with the obvious hypothesis that, in general, injury severity increases with increase in the damage area.

TABLE 41. INJURY SEVERITY VERSUS SPECIFIC HORIZONTAL LOCATION OF DEFORMATION

Damage Area	Percent of All Vehicles in Category	Mean AIS Rating	Percent of All Occupants
Distributed (D)	38	1.99	38
Left (L)	9	1.77	9
Center (C)	3	2.21	2
Right (R)	8	1.82	7
Front (F)	8	1.59	8
Passenger (P)	7	1.15	8
Back (B)	2	1.42	2
B+P or P+C	15	2.11	15
F+P or L+C	10	2.01	11

The general type of damage distribution has also been studied for trends and injury patterns and the results are shown in Table 42. The predominant type of damage distribution was the wide area of impact which involved 76 percent of the vehicles and 78 percent of the occupants. These occupants sustained a mean AIS rating of 1.92. The highest injury level was recorded for the occupant in a vehicle which struck an overhanging structure.

Damage extent is, perhaps, the easiest of the severity measures to correlate with injury severity since both are numerical qualities that lend themselves to simple mathematical reduction. Care must be used in interpreting the results of such comparisons, however, due to the gross difference in vehicle exteriors and interior design and in the difference in force levels to produce a given "extent" of damage–to the side for example, in contrast to the front of the vehicle. The relationship between injury severity and damage extent is plotted in Figure 14. The numbers in the parenthesis below the extent numbers are the percent of the total vehicles with that extent rating. The graph represents all vehicles for all types of collision configuration. Approximately 87 percent of the vehicles had an extent rating of 1 to 5 inclusive. Another graph, Figure 15, depicts a similar relation for vehicles that were struck in the front, regardless of force direction. A trend of damage extent to occupant injury indicates that the higher the extent number the higher the injury level to the occupant. A graph was also prepared to illustrate the injury/damage relation for the vehicles struck at the 11, 12, and 1 o'clock positions; the general shape of the curve was also identical as that for frontal collisions with small variations in the mean AIS ratings. Such comparisons are significant only if the data file contains an adequate number of accidents to insure representation. The exact method in which these comparisons should be made is still the subject of considerable debate between accident research analysts. The final solution will probably not be reached until adequate files have been constructed and analysis of these files thoroughly accomplished.

TABLE 42. INJURY SEVERITY VERSUS GENERAL TYPE OF DAMAGE DISTRIBUTION

Type of Damage Distribution	Percentage of All Vehicles	Mean AIS Rating	Percentage of All Occupants
Wide	76	1.92	78
Narrow	9	2.24	8
Rollover	8	1.58	7
Corner Impact	4	1.34	4
Sideswipe	2	1.44	2
Overhang Structure	1	5.67	1

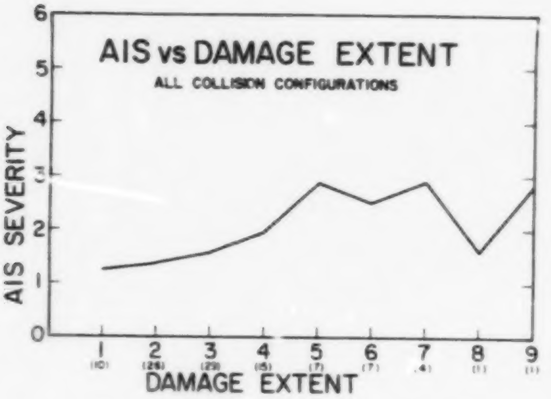


FIGURE 14. AIS VS DAMAGE EXTENT

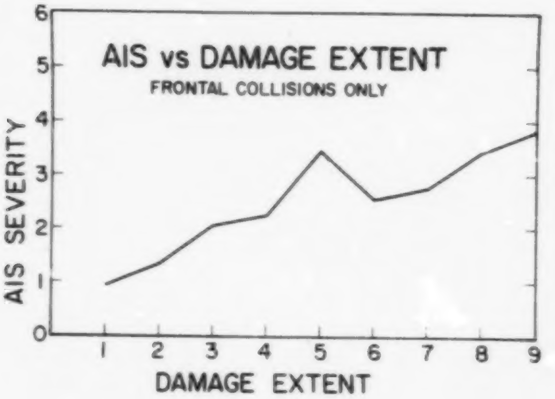


FIGURE 15. AIS VS DAMAGE EXTENT

Vehicle Damage Frequency Count

The location of the damage sustained by a vehicle can be derived from the VDI. The frequency of occurrence of damage at specific locations of the vehicle is shown in Figure 16. Sixty-four percent of the vehicles in the sample sustained damage to the front or rear end, 26 percent to the side, and 7 percent to the top. Damage was unclassifiable on 3 percent of the vehicles. Ninety-two percent of the vehicles damaged on the end recorded front-end damage. Damage to the right and left sides was evenly distributed, 50 percent to each.

VDI Consistency Study

An original goal of the Accident Investigation Pilot Study was to assess the ability of individual investigators to rate the damage sustained by vehicles and thereby validate the VDI damage rating technique. To accomplish this task, two investigators from each team assigned a primary VDI to a collision damaged vehicle. If their ratings were different, they were asked to arbitrate until they reached a concensus. All three ratings were entered into the CARF. Upon receipt of the CARF at SwRI for data processing, trained field investigators, including engineers and experienced technicians, assigned still another concensus VDI to the vehicles. The SwRI VDI was evolved using the damage descriptions in the CARF's, the accident narrative, and photographs supplied by the teams. Two SwRI investigators evolved an SwRI concensus VDI for each vehicle. The SwRI concensus VDI's and the CARF concensus VDI's were then compared. Of the 520 primary VDI's, 59 percent (306 VDI's) of the assigned concensus VDI's were identical to the SwRI VDI's; 20 percent (103 VDI's) differed by only one character from the SwRI concensus VDI's. A summary of the one character differences that existed between the CARF VDI's and the SwRI VDI's is shown in Table 43.

In general, accident investigators have little trouble agreeing upon the direction of force in the VDI. Of the 22 cases in which the VDI's were off in the o'clock position, 18 were off by only one hour of the clock, two were off by two hours, one was off by three hours, and one was off by more than three hours.

Damage distribution is indicated in column three of the VDI for damage along the horizontal direction of the vehicle and column four for damage along the vertical direction of the vehicle. The question of whether the accident investigators were over- or under-rating the damage was addressed. Of the 12 VDI's that were off by one character in column 3 (horizontal direction), one CARF VDI reported D (distributed) damage along the side instead of Y (front and passenger compartment) or Z (back and passenger compartment) damage; and one reported D (distributed) damage across the front rather than Y (left and center) or Z (right and center) damage. The remainder, 10 classifications, were errors due to under-reporting or a mistake in the assigned location of damage. Along the vertical direction of damage, six descriptors were either over-reported or an error was made in specific vertical

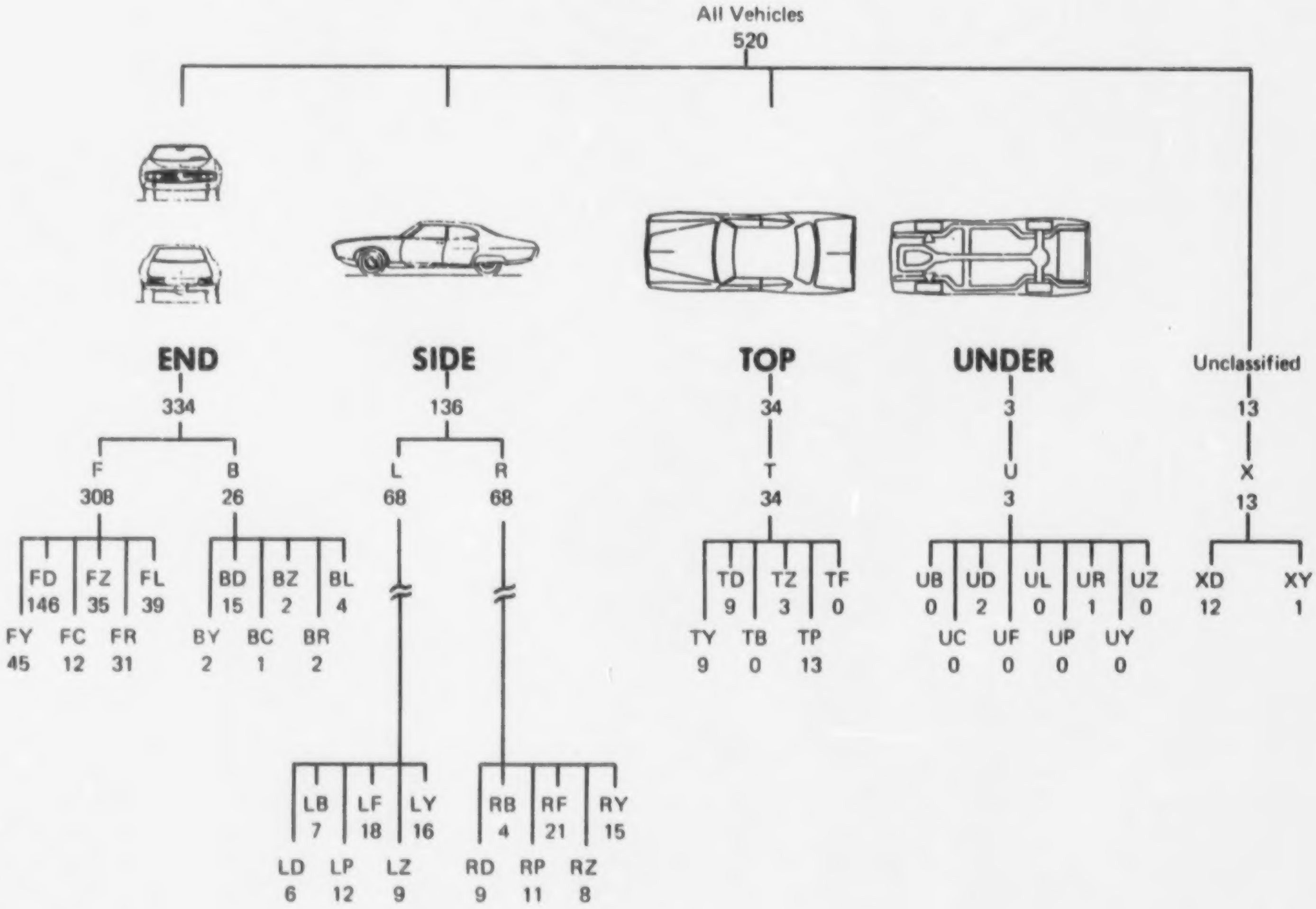

All Vehicles
520
END
334
F
308
FD
146
FZ
35
FL
39
FY
45
FC
12
FR
31
B
26
BD
15
BZ
2
BL
4
BY
2
BC
1
BR
2
SIDE
136
L
68
LB
7
LF
18
LY
16
LD
6
LP
12
LZ
9
R
68
RB
4
RF
21
RY
15
RD
9
RP
11
RZ
8
TOP
34
T
34
TD
9
TZ
3
TF
0
TY
9
TB
0
TP
13
UNDER
3
U
3
UB
0
UD
2
UL
0
UR
1
UZ
0
UC
0
UF
0
UP
0
UY
0
Unclassified
13
X
13
XD
12
XY
1

FIGURE 16. FREQUENCY OF OCCURENCE OF DAMAGE AT SPECIFIC LOCATIONS

TABLE 43. SUMMARY OF ONE CHARACTER DIFFERENCES

Character	Frequency
O'clock	22
General	1
Horizontal	12
Vertical	12
Type	11
Extent	45

location of damage. The remaining six descriptors were under-reported; two cases from the CARF reported G (glass) or M (middle) instead of H (everything above the frame line); two reported L (low) or M instead of E (everything below the belt line); and two reported H or E instead of A (all areas in a vertical direction).

Of the 45 cases in which the extent number was off by one character, 31 were off by only one level of severity while 14 were off by two or more levels of severity.

A study of the codes which indicated corner impact, i.e., an alphabetic character E in column 5 of the SwRI VDI, revealed that 56 of the CARF concensus VDI reports were the same as the SwRI VDI (excluding consideration of the direction of force and the extent number). Eight were similar with respect to the third, fourth, and fifth characters of the VDI, two had the third and fourth characters interchanged, e.g., F for L or R, etc., and 12 were not similar at all.

The conclusion one draws from this analysis is that there was reasonably good correlation between the VDI's assigned by inexperienced field investigators who have looked at the damaged vehicles first hand and experienced investigators who have nothing more than photographs and verbal description of damage and accident sequence. It can be reasonably prognosticated, therefore, that field investigators, with training and only a minimum amount of experience, can apply a damage descriptor to a vehicle adequately for accurate statistical analysis. There are no real major areas for concern with regard to modification of the classification system. Comprehensive interpretation of some elements of the Vehicle Deformation Index may occasionally be required for special cases, but proper instruction of potential field investigators in the use of the VDI will minimize this problem.

Vehicle Interior Deformation Index

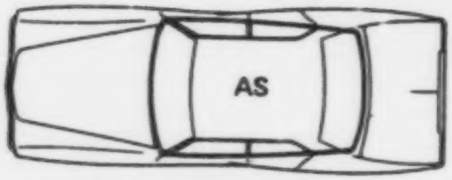
The VIDI is a detailed specification of the location and percent of occupant compartment reduction. The index consists of 7 characters; the first two are alphabetic and describe the general seat area of reduction, while the remaining 5 characters are numeric and specify the percent of the specific reduction within the occupant compartment. The possible alphabetic codes are depicted in Figure 17; the locations at which the 5 numeric codes are derived are also shown in Figure 17.

Of the 520 vehicles, 343 of them had a VIDI rating. Of the 343, 178 had a nontrivial VIDI, *i.e.*, there was reduction of the occupant compartment volume. Correlation between the injury severity and increasing degrees of occupant compartment reduction was attempted. In reducing the accident data, it was necessary to differentiate between a vehicle that had small reduction in several areas, possibly from primary and secondary contact, and those vehicles that had a higher percentage of reduction in a single area. A method involving summing the squares of the constituent extent numbers was developed. The vehicle with the largest value for the summation was considered to be most severely damaged, and it was hoped that some correlation between this number and injury severity might exist. An example of how this technique was applied follows: a vehicle with a VIDI of LF10001 would have a rating of $(1^2) + (0^2) + (0^2) + (0^2) + (1^2) = 2$; another vehicle with a rating of LF20001 would have a rating of $(2^2) + (0^2) + (0^2) + (0^2) + (1^2) = 5$. In Table 44, groups of the summation damage indices for the VIDI are shown in relation to the mean AIS rating sustained by all occupants in the respective vehicles. There is a general trend that as the summation of the squares of the extent number increases, the mean AIS rating of the involved occupant increases; a generally similar relationship exists for damage and fatalities.

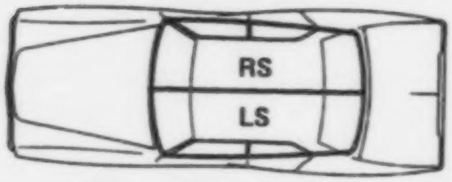
More data are needed to correlate occupant injury and VIDI damage extent. Occupant seated position relative to area of compartment collapse must surely be an important consideration. Does the occupant sustain higher injury if he is seated in the area where occupant compartment reduction occurs? Does the collapsed interior surface come to rest before occupant contact occurs? Due to the size of the sample, an in-depth analysis in these areas was not attempted.

Serious consideration of the VIDI as a measure or predictor of injury severity is buffered by the masking of injury causation from other events. Field accident investigators know well that serious injury may have occurred in a collision, yet there may be no evidence of occupant compartment reduction in size. If the VIDI is ever to be used as a general measure of accident severity, more refined methods of separating the variables will have to be developed.

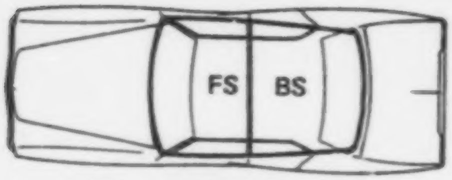
col 1 – 2



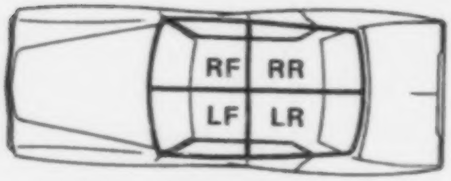
AS ALL SEATS



RS RIGHT SEATS
LS LEFT SEATS



FS FRONT SEATS
BS REAR SEATS



LF LEFT FRONT
LR LEFT REAR
RF RIGHT FRONT
RR RIGHT REAR

VIDI is partly based on the same principles as the VDI and is meant to be used in combination with the VDI.

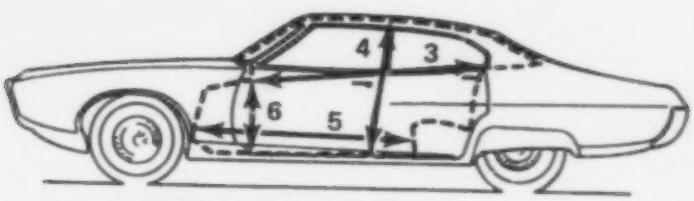
VDI gives a detailed specification of the location and extent of external deformation. VIDI is meant to complete this information regarding the reduction of the passenger compartment.

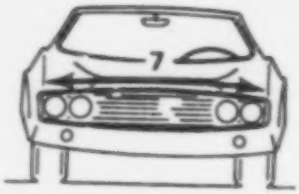
The amount of reduction is given in a 10-degrees linear scale with "0" meaning no reduction, "5" meaning reduction to the half and "X" meaning total reduction.

The location of the reduction is related to the seat/seats concerned.

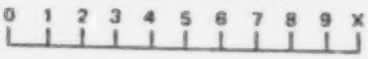
Col 3-7	are used to indicate the reduction, where:
Col 3	means the deformation between the top of the rear seat back rest and the instrument panel (not overhanging padding) or intruding objects
Col 4	means the deformation between floor and roof
Col 5	means the deformation between the foremost lower part of the rear seat and the fire wall
Col 6	means the deformation between the lower part of the instrument panel and the floor
Col 7	means the inner width deformation.

col 3 – 7





DEFORMATION SCALE



VIDI

INDEX COLUMN NO.–	1	2	3	4	5	6	7
PUNCH CODE –	12	13	14	15	16	17	18

FIGURE 17. VEHICLE INTERIOR DEFORMATION INDEX

TABLE 44. AIS VERSUS VIDI

Summation of Squares of Extent No.	Mean AIS Rating	Percentage of All Occupants in Each Category	Percentage Fatalities
0 to 3	1.74	83	5
4 to 7	2.09	8	6
8 to 11	2.52	5	13
12 to 21	4.28	2	32
22 to 31	3.00	1	22
32 and over	5.36	1	55

Occupant Contact Areas

The Split-Plot Analysis of Variance Design was used to analyze the frequency of contact for certain contact areas at different VDI force directions and for different damage severities. All of the factors involved were found to be significant in describing the frequency of contact. Since the interactions were significant, they must be discussed first, because this interrelates the factors. The severity by force direction interaction is significant. This implies that the frequency of contact by a passenger is not distributed the same across the severity range for different force directions. For example, a higher percentage of contacts could be made at higher severities for front-end collisions than for rear-end collisions, i.e., more rear-end collisions have a lower severity.

The force direction by contact area interaction is also significant. This means that different contact areas have a higher frequency of contact for some force directions and a lower frequency of contact for others. For example, the dashboard is contacted more frequently for front end than side impacts. The contact area is the most significant factor. This means that some contact areas are contacted more frequently than others. There are many reasons for this, and the fact that they interact with the force direction is one of them. Most of the significance of the severity and force direction can be attributed to the fact that certain types of accidents occur more frequently. However, the main purpose of the design was to test the contact area factor and its relation to the other factors.

Injury Causation

Table 45 shows the rank order of severity of injuries from specific contact areas. There were 2652 contacts recorded in the 39 listed items. The contact areas above the 1.94 severity rating, which was the mean rating for all occupants, are areas of generally unyielding and unpadded protection. Yet, they accounted for 45 percent of the total contacts. The area most frequently contacted was the instrument panel, which produced a mean AIS level of 1.57, well below the mean AIS rating of 1.94 sustained by the 916 occupants. The steering wheel was the next most frequently contacted area and produced an injury level of 2.14. Although the steering wheel assembly has changed vastly in the last five years, further safety improvement is needed.

Undoubtedly a "masking" effect exists in the present form of recording occupant injury and contact areas. No provision is made to relate specific injuries to specific contact areas, and two injuries of the same type and in the same body region cannot be recorded independently. The inadequacies of this system and a proposed Occupant Injury Classification scheme were explained in another paper at Brussels Workshop. This paper and the others presented at the Brussels Workshop appear in **Proceedings of the International Accident Investigation Workshop**, Brussels, Belgium, June 1973. Edited by Dr. E. E. Flamboe and S. N. Lee of the National Highway Traffic Safety Administration, this book is scheduled to be published in October 1973.

Injury Location

The incidence of injuries and the mean AIS rating to body areas are shown in Figure 18. The figure is a composite from the NATO Occupant Injury page and was reduced from 32 to 11 body regions. By observation, the body parts most susceptible to injuries are the extremities with the lower limbs, which include the hip and thighs, being more susceptible than the upper limbs. Note that the head, when combined with the face, is injured most frequently. The chest wall, internal injuries, and neck follow and the pelvis and abdominal wall are third in rank. The lower back is injured least frequently.

Of the 32 body regions assigned in the NATO form, the four most frequent areas of contact were the face, chest wall, brain and base of skull, and scalp and vault of skull. Table 46 lists the four areas and the respective contact areas where the injury was probably sustained. These four areas out of the 32 accounted for 39 percent of the total injuries. The occupant categories include all occupants for all collision configurations, and for drivers only in frontal collisions. Since 62 percent of vehicles were struck in the front, this is an appropriate category and involves the majority of both vehicles and seated positions of occupants. It is apparent in the latter group that although the vehicle was struck in the front, there was significant side force since a percentage of the drivers sustained injuries from the side structures as shown in column 8 of Table 46.

TABLE 45. MEAN AIS RATING, CONTACT AREA FREQUENCY OF CONTACT

Mean AIS Rating	Contact Area	Frequency of Contact
3.35	B Pillar	15
3.10	Roof Side Rails	10
2.77	Other	121
2.73	Foot Controls	30
2.68	Hood	47
2.55	Objects Exterior to Car	49
2.50	Roof or Convertible Top	28
2.45	Console	20
2.23	Parking Brake	13
2.20	Floor	20
2.17	A Pillar	64
2.14	Steering Assembly	422
2.14	Window Frames	81
2.11	Outside Surface of Car	47
2.05	Other Occupants	22
1.97	Transmission Selector Lever	30
1.96	Surface of Side Interiors	199
1.94	Mean AIS	–
1.93	Armrest	27
1.86	Head Restraints	36
1.84	Windshield	267
1.80	Restraint System Hardware	15
1.75	Backlight Header	15
1.71	Radio	14
1.66	Mirrors	43
1.65	Back of Seats	121
1.59	Window Glass	76
1.57	Instrument Panel	443
1.57	Glove Compartment Area	68
1.56	Sunvisor and Fittings	72
1.56	Backlight	16
1.48	Hardware-Sides	23
1.43	Hardware-Front	47
1.43	Coat Hooks	14
1.41	Restraint System Webbing	44
1.33	Heater or AC Ducts	15
1.29	Interior Loose Objects	7
1.17	C Pillar	6
1.00	Courtesy Light	1
0.83	AC or Vent Outlet	6

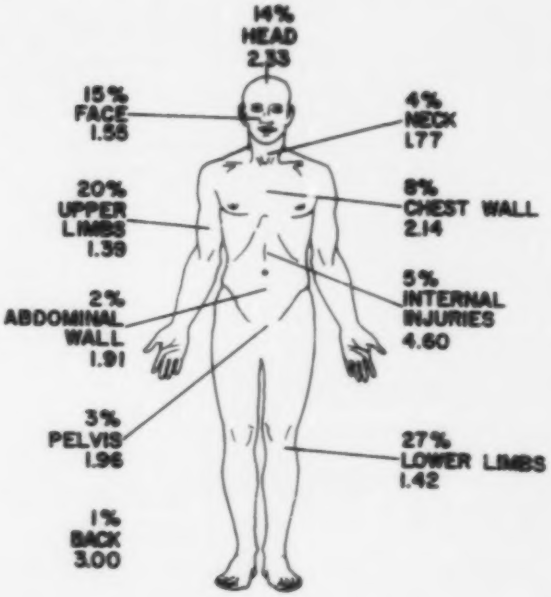


FIGURE 18. INCIDENCE OF INJURIES TO BODY AREAS

Some degree of facial injury was sustained by 45 percent, or 414 of the 916 occupants, with a mean AIS rating of 1.55. The most prominent area of contact for both occupant categories, as shown in Table 46, is the windshield and steering wheel, followed by the instrument panel and sunvisor. Chest wall injuries were sustained by 24 percent of the occupants. The mean AIS rating for these occupants was 2.42. The predominant area of contact for all occupants in all accident configurations is the steering wheel with 59 percent, followed by the side structure, while 89 percent of the drivers in frontal collisions sustained chest wall injuries from contact with the steering wheel. The high percentage again strongly indicates that the steering wheel and steering assembly need vast improvement to reduce the number and severity of both face and chest wall injuries. Of the body regions listed, the brain and base of skull region had the highest mean AIS rating, 2.80, and fatality rate, 11 percent. Approximately 21 percent of the 916 occupants sustained some degree of injury to this region. The major source of injury from Table 46 for both categories of occupants was the windshield, followed by the sunvisor for all occupants in all collision configurations and the steering wheel for drivers in frontal collisions only. Approximately 21 percent, or 189 of the occupants, sustained scalp and vault of skull injuries. Although the mean AIS rating was 1.75, a fatality rate of 5 percent was noted to these occupants. From observation in Table 46, all occupants in all collision configurations sustained injuries from contact with the windshield–32 percent, sunvisor–12 percent, followed by the "A" pillar and mirror–9 percent, side structure–6 percent, steering wheel–5 percent, and instrument panel–4 percent.

Summary and Observations

Despite differences between countries in traffic conditions and in vehicle design, a general picture of occupant injury from traffic accidents can be obtained. The international accident investigation protocol developed for and used by the 33 participating teams from 9 nations in the Accident Investigation Pilot Study has been proven in this program to have significant value.

TABLE 46. FREQUENCY OF INJURY IN RELATION TO AREA OF VEHICLE CONTACTED

Body Region	Possible Contact Areas, %													
	WS		SW		IP		SV		A-P		MR		SD-S	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Face	34	36	19	35	11	5	9	9	5	5	5	3	5	4
Chest Wall	–	–	59	89	12	4	–	–	–	2	3	–	13	3
Brain and Base of Skull	29	30	8	20	5	3	11	7	4	5	–	–	6	3
Scalp and Vault of Skull	32	33	5	9	4	3	12	16	9	12	9	9	6	4

1–All occupants all col. conf.
2–Drivers only in frontal coll.

WS–Windshield
SW–Steering Wheel
IP–Instrument Panel
SV–Sunvisor
A-P–"A" Pillar
MR–Mirrors
SD-S–Side Structures

The primary accomplishment has been to cause various international groups to recognize the potential uses of, and participate in the collection of, a standardized set of injury and damage data. Due to the size of the sample in the Pilot Study, a detailed in-depth analysis was not attempted. However, in some areas general trends were apparent. It is hoped that this trial program will expand and continue so that more meaningful data can be collected and assessed to aid automotive engineers and government regulatory agencies in developing accident and injury countermeasures. Greater uniformity must be accomplished in the reporting of accident injury and damage so that statistical results will be more comparable and meaningful. The Pilot Study program shows this goal to be realistic and attainable.

PROPOSED INTERNATIONAL ACCIDENT INVESTIGATION SYSTEM

Statement of Success

The success of all road safety programs is fundamentally dependent upon reliable data which can be obtained only by research oriented, in-depth investigations of actual roadway crashes. The critical laboratory experiment or staged experimental crash can never by performed (because of the sheer weight of humanitarian concern), which can duplicate the results of the unfortunate laboratory of motor vehicle and highway safety; namely, "real-world" crashes that occur on the roadway. The need for research-oriented accident investigation data has been recognized internationally. This was evidenced by the expression of concern over the lack of such information alluded to repeatedly in the papers presented at the International Experimental Safety Vehicle Conference held in Kyoto, Japan, in March, 1973.

Traditionally, highway safety problems have been viewed as being either national or provincial problems, and approaches to their solutions have been confined to the national and provincial levels. The principal aim of these highway safety programs has been to establish the guilt of traffic law violators, and the identity of culpable drivers involved in traffic collisons. The primary objective of accident investigation in this type of program is to ascertain the "at-fault" driver. The chief countermeasure that is employed involves the imposition of either a monetary retribution or some form of disciplinary action which is intended as a deterrent to unsafe vehicle operation which leads to roadway crashes. However, as noted by Klein and Waller, the experience in the U.S., at least, indicates that,

> "there is to date little, if any, evidence to indicate that the punitive approach has had any success in substantially reducing the incidence of crashes."

The results of accident investigation activities which have traffic law enforcement as their primary objective is a body of data that is used principally for administrative purposes and is not qualitatively suitable as a basis for formulating more effective countermeasures. The term "administrative data" has been applied to these kinds of data as in contrast to "research data" which are generated by more highly trained professionals who are aware of scientific principals, controlled studies, and the limitations which control how these data can or cannot be used. However, as further pointed out by Klein and Waller:

> ". . . both policy-makers and the public are far more frequently exposed to administrative than to research data, are often unable to distinguish between the two types, and hence may use administrative data as a basis for decisions important enough to require research data of the highest possible quality."

Although a number of agencies exist in various countries such as ONSER, SWOV, DEKRA, the UK's Road Research Laboratory, in the U.S. the National Highway Traffic Safety Administration's (NHTSA)-sponsored Multidisciplinary Accident Investigation Teams, a similar enterprise by Canada's Ministry of Transport, and several other governmental, quasi-governmental, private industry-sponsored and university-based research centers which are engaged in some type of research-oriented accident investigation programs, there are no consistent coordinated research efforts with widely disseminated findings. Although some of the data generated from studies conducted by such groups or agencies have a modicum of international flavor, most are generally used for provincial or nationalistic problem solving objectives. Much of the data is collected and analyzed from a parochial frame of reference, i.e., government for rulemaking and enforcement, and industry for product design. The natural insulation between governments, governments and their industries, and within industries with their competitive natures, limits both the effectiveness of research findings, and their disseminations.

Developments in the import/export market for motor vehicles during the past 5 to 10 years has extended the roadway safety problems beyond the scope of purely national concern. To a lesser extent, international travel via motor vehicles has had a similar effect. Citizens of one country can either drive across international boundaries or can rent or purchase a car in a foreign country and become involved in a road crash in that country. With this kind of international travel, the highway safety problems of one nation become the highway safety problems for citizens of other countries.

International trade conducted by the world's automobile manufacturers causes the presence or absence of safety features, as well as the incidence of motor vehicle defects to be of great concern to the citizens of the importing country. In addition, manufacturers who are engaged in international trade are constantly confronted with the requirement that their products be in compliance with the motor vehicle safety standards enforced by the various nations where importing of their product occurs. Because these motor vehicle safety standards are promulgated on a national basis, wide variances exist between countries as regards the vehicle safety aspects being regulated, the degree and stringency of regulation, the intent of the standard and the methodology for testing compliance with the standard. All of these factors work against the development of a cost-effective manufacturing process.

Internationally, the manufacturer is, in reality, faced with the paradox of complying with nonstandardized standards. The role of an international accident investigation system is seen as the only means for providing the basic, real-world information upon which international safety standards can be developed and adopted nationally whereby enhancement of international trade and road transportation safety can be accomplished. Similarly, participants in the international Experimental Safety Vehicle Program are dependent upon an international body of uniform, reliable, highway crash data so that the development of these vehicles can be approached in a more coordinated and judicious manner, either on a component-by-component basis or as a total design concept.

Therefore, the problems of road safety are common to all countries where international trade and travel are practiced. Furthermore, the propensity for foreign travel and resultant exposure to collision occurrences, as well as export-import activity, are expanding realities and their safety-related aspects have become significant world problems. Because of these realities and, hopefully, a natural, benevolent concern for the safety and welfare of the brotherhood of man, the highway safety problems of one nation become the problems and concern of citizens of all countries where these situations exist. Development of effective countermeasures requires a uniform body of reliable, research oriented, collision data. Solutions to highway safety problems at the international level require a cooperative effort on the part of all involved nations. To accomplish this, transcendence of nationalistic approaches to highway safety problems is required. The ineffectiveness of most countermeasure activities is a result of inadequate reliable information about the chain of events leading to collisions, the dynamics of crashes, and the resultant injury, property damage, and economic losses. For these reasons, it may be concluded that an international, research-oriented, accident investigation system is urgently needed.

For the past 3 years, the feasibility of establishing such an international system has been studied. Several of the reports presented at the Brussels Workshop concerning the results of the study indicate that an international accident investigation program is both feasible as a continuing operation and desirable on the part of all participating countries. A significant conclusion, therefore, is that a standard report form is also feasible and desirable.

The structure of an international system for accident research is shown schematically in Figure 19.

A standardized reporting format (see Volume III) has been proposed for adoption and use by all participants in an international accident investigation system. This shorter modification of the Collision Analysis Report Form forms the nucleus of an accident investigation protocol which can satisfy the need for collection of a common set of data elements which will be compatible between countries. Additional data items can be developed which are tailored to the design of specific highway safety problem studies and which build on as an extension to the basic short form. This allows the needed flexibility for change to encompass the complete matrix of human, vehicle, and roadway as each is involved in the precrash, crash and postcrash phases of the collision event. It also allows for focusing studies on new and modified safety systems and subsystem components as well as elements unique to each national environment.

During the past 3 years, the NATO/CCMS Accident Investigation Project has been conducted under the direction of an international Coordinating Panel composed of government representatives of each participating nation. It has been proposed that a sustaining international accident investigation system be directed by a similar International Coordinating Board. The specific functions of the Coordinating Board would be to provide (1) coordination of research accident investigation activities among participating countries, and (2) a forum for arriving at agreements regarding investigative approaches and methodologies, reporting formats, uniform definitions of highway safety terminology, priorities for specific highway safety problem studies on an international scale and solicit the participation of countries in international studies.

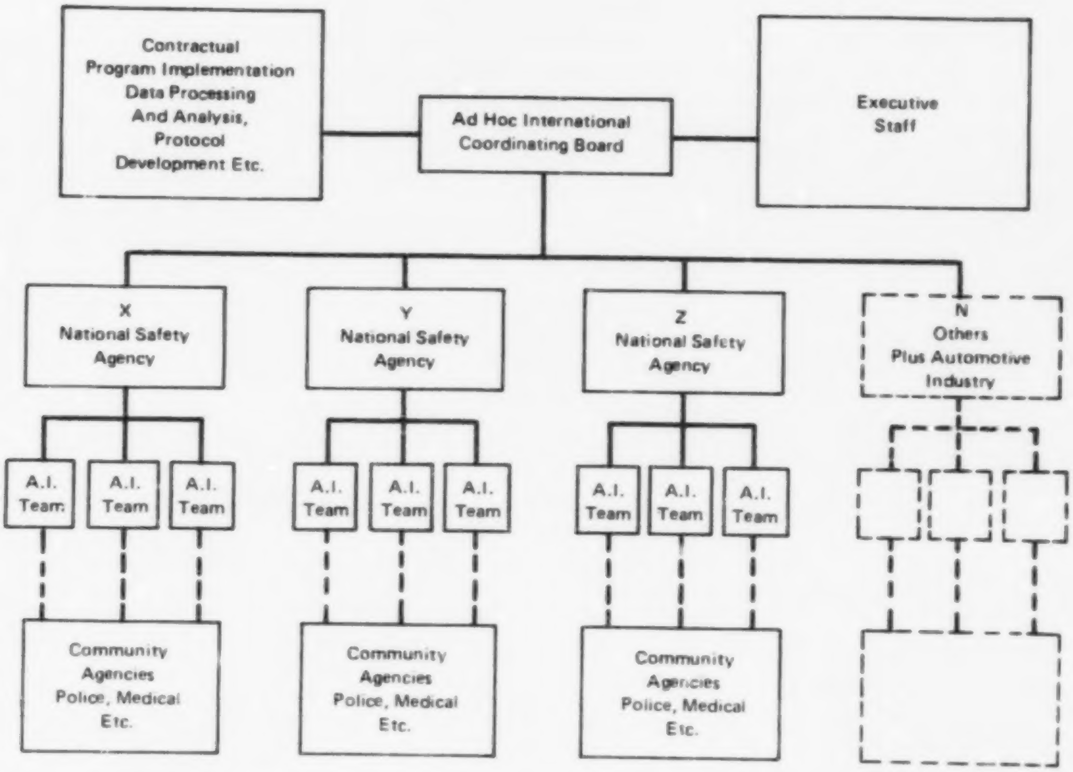

Contractual
Program Implementation
Data Processing
And Analysis,
Protocol
Development Etc.
Ad Hoc International
Coordinating Board
Executive
Staff
X
National Safety
Agency
Y
National Safety
Agency
Z
National Safety
Agency
N
Others
Plus Automotive
Industry
A.I.
Team
Community
Agencies
Police, Medical
Etc.

FIGURE 19. SCHEMATIC FOR INTERNATIONAL SYSTEM FOR ACCIDENT RESEARCH

Those participating countries and organizations having their own data processing and analysis capabilities could perform these functions themselves with the exchange of results and raw data on a reciprocal agreement basis. Those countries and organizations which do not have traffic accident data-handling capabilities could contribute their data to a common pool and have analysis functions performed by a contractor agency under the supervision of the Coordinating Board. The exchange of information felt to be proprietary in nature would be under the control of the Coordinating Board and would be subject to the desires of those organizations whose proprietary information is affected.

The characteristics of the International Coordinating Board must include the following:

(1) Representation for all participants,

(2) Be highly responsive and adaptable to the rapid achievement of national and international road safety objectives,

(3) Be unencumbered by traditional international protocol and procedures which prevent flexibility to adapt to an expanding, dynamic road transportation system,

(4) Be of minimal size and complexity so as not to inhibit effective decision-making processes,

(5) Be composed of Government representatives empowered to make policy decisions and commit national interests to system development,

(6) A technically competent membership with such tenure as to allow for sustaining knowledge of present and projected problem and projected countermeasures development, and

(7) Provision for a rotating chairmanship.

To expedite the implementation and application at the national level of accident investigation procedures agreed upon by the International Coordinating Board, it is necessary to have an operational organization identified in each participating country which can solicit the necessary cooperation and agreements at the local level and mobilize the required national resources. It is also necessary to secure industry participation and cooperation. To ensure cooperation at all levels, each member nation should either establish or identify an existing agency/organization to oversee the implementation and operation of an accident investigation effort at the national and local level in cooperation with an international accident investigation system.

The characteristics of such a National Road Accident Research Agency should include these items:

(1) A technically competent membership which is cognizant of highway safety agencies at both the State and political subdivision level, and the operation of their accident investigation-related activities, and, in addition, automotive industry activity,

(2) Have the capability of establishing liaison with State and local agencies and industry in obtaining agreements to cooperate with an international accident investigation effort,

(3) Be highly responsive and adaptable to the achievement of highway safety goals, and

(4) Have as one of its key members, or a close working relationship with, the government representative member of the International Coordinating Board.

Member organizations of the international automotive industry are strongly urged to cooperate with and actively participate in an international accident investigation effort. Their active involvement is necessary to provide direct information on safety-related design changes and modifications and to develop suggested modifications to the Collision Analysis Report Form for submission to the International Coordinating Board. Results of and the exchange of information regarding their own accident investigation efforts are also strongly urged.

Based on the operation and results of the NATO/CCMS Accident Investigation Project, the implementation of an international accident investigation system such as presented is highly feasible. The functionality of a standard computerized reporting form with a common machine language and data analysis procedure has been successfully demonstrated. The operation of a multidisciplinary approach to accident investigation research under the direction of an International Coordinating Panel now exists as a successful prototype for the implementation of an expanded international system involving all nations engaged in motor vehicle import/export activities and whose citizens are engaged in international travel, as well as any country whose domestic policy includes a genuine interest in highway safety. The high degree of international concern indicates the time for implementation is now.

PROPOSED CONCLUSIONS, RECOMMENDATIONS, AND IMPLEMENTATION ACTIONS

To arrive at a concensus recommendation for followup activities for accident investigation, two questions were raised for discussion by panel members at the Coordinating Panel meeting in The Hague on March 26, 1973:

(1) Would your country be willing to participate in an international accident investigation data collection and analysis system, and:

(2) If your country continues to participate, would it be willing to provide financial support.

The question was also raised "What international agency would be the most logical to be recommended for overseeing a sustained accident investigation program once the NATO/CCMS terminated its activities." Several suggestions were considered. The suggestion which received the majority of support was to have the program operation based upon multilateral agreements among participating nations.

It was recognized that these were policy questions and definite answers would require further discussion on the part of each panel member with its respective government. At the June 30, 1973 Coordinating Panel meeting at Brussels, Belgium, the following conclusions, recommendations, and implementation actions were proposed for adoption by the panel. These actions received unanimous support from the panel members. These conclusions, recommendations, and implementation actions, therefore, represent the final product of the accident investigation project of the Road Safety Pilot Studies.

International Action–International Accident Investigation System

Conclusion: Because road safety problems are common to all countries where international highway travel and automobile import and export trade are allowed, it is highly desirable that the search for solutions to road safety problems be a cooperative effort shared by all involved nations. It is further recognized that accident investigation activities are basic to the success of all road safety programs.

Recommendation: It is recommended that an international accident investigation system be established whereby all nations and all members of the international automotive industry can become involved in a cooperative effort to seek solutions to both common and nationally unique road safety problems.

National Action–Common Accident Investigation Protocols

Conclusion: In order to generate traffic collision data which is uniform and compatable on an international basis, it is feasible and highly useful for each participating nation to employ a common basic reporting format and compatable investigative procedures.

Recommendation: It is recommended that each member nation adopt and utilize a commonly agreed upon set of accident investigation protocols.

International Action–Multilateral Agreement

Conclusion: To establish an effective international accident investigation system, it is necessary that its operation be under the direction of an organization which is representative of all participants, highly responsive and adaptable to the rapid achievement of national and international highway safety objectives; it should not be encumbered with traditional international protocol and procedures which prevent flexibility to adapt to an expanding, dynamic highway transportation system; and it should also be of minimal size and complexity so as not to inhibit effective decision-making processes. Its membership should be technically competent and should have such tenure as to allow for sustaining knowledge of present and projected problems and projected countermeasures development.

Recommendation: It is recommended that steps be taken to develop procedures for obtaining multilateral agreements among interested nations and the member corporations of the international automotive industry, whereby a governing organization can be formed for the purpose of establishing and directing the operation of an international accident investigation system.

National Action—Cognizant National Accident Investigation Agencies

Conclusion: To expedite the implementation and application at the national level of accident investigation procedures agreed upon by the International Governing Board, it is most advantageous to have an operational organization identified in each participating country which can solicit the necessary cooperation and agreements at the local level and mobilize the required national resources.

Recommendation: It is recommended that each member nation either establish or identify an existing agency/organization to oversee the implementation and operation of an accident investigation effort at the national and local level in cooperation with an international accident investigation system.

National Action—Standard Accident Reporting Format

Conclusion: A basic accident investigation reporting format, developed during the operation of the NATO/CCMS Accident Investigation Project, has proven to be highly useful in the generation and analysis of highway collision data on an international scale.

Recommendation: It is recommended that each government and manufacturer participating in the international accident investigation system adopt for their use, the reporting format developed under the auspices of the NATO/CCMS Accident Investigation Project.

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I. PREPARATION OF THE DATA

With the exception of the analysis, the most important thing in processing the accident reports is the preparation of the data. Strict quality control must be maintained to be sure that the coding of each case on magnetic tape is an accurate representation of the actual accident that occurred. If there are misunderstandings of the use of the codes or inconsistencies in the cases, then the analyses have no real meaning. This is why so much emphasis is placed on accuracy in the processing of the data.

Upon receipt of the individual case reports, SwRI reviews the entries made therein. A considerable number of manual checking and other operations must be performed on each case before it is submitted for keypunching. These operations are necessary to ensure that the blue cases are in proper form for the conversion program BLUCON, and that all cases are as free of errors as possible. A summary of the changes made to each report by SwRI has been kept. In addition to the changes and corrections, SwRI assesses the vehicle damage and assigns an SwRI concensus VDI number to each vehicle.

The specific corrections and checks that were made by hand are discussed in Appendix B in detail.

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II. CREATION OF THE FILE

A. General

Once the data have been prepared, they are keypunched and verified. Each case is punched directly from the CARF onto computer cards. Then another keypunch operator confirms or corrects the cards by punching the same case on a Verifier. If any differences are noticed, the machine signals the operator, and he can check if there was a mistake on the card. When all of the cases have been put on computer cards, they are ready for computer processing.

B. BLUCON

The first step in the computer processing of the cases is to convert them to the same format. BLUCON was written to adapt the data punched from the blue CARF's into a form compatible with the yellow CARF format. Various editing statements have also been incorporated into the BLUCON program.

There are several problems in the conversion of blue to yellow. The primary problem is that the card numbers and column numbers do not always contain the same information items in both forms. For example, the information in blue card 02, column 29, is not to be found in the same yellow card or column, but instead appears in yellow card 03, column 23. A further problem is that the blue form is not a simple subset of the yellow form. Thus, there is information in the blue form which is not in the yellow form, and vice versa. The coding of certain items has changed in going from blue to yellow forms, in some cases as new categories were added in the yellow form, and for no apparent reason in others. Finally, there are some items which are completely incompatible, such as roof pillar damage. In the blue form, roof pillar damage appears on card 04, columns 46-53, while in the yellow form, roof pillar damage is separated into left or right, appearing respectively on card 07, columns 15-31 and card 08, columns 23-39. The further subdivision into upper or lower roof pillars in the yellow form means that the whole set of data on roof pillar damage is incompatible between forms, since this information is not contained in the blue forms.

BLUCON is a complex computer program written to convert punched cards from blue forms into new punched cards in yellow format. Appendix C describes the basic blue-to-yellow conversion relations, showing where the information in a given blue card number and column number must be punched in the yellow cards. In addition, the column titled "Recodes and Omissions" identifies blue items which had to be recoded to match the corresponding yellow items, and lists items which were omitted for reasons of incompatibility. Appendix C explains the recodes and omissions.

The BLUCON program operates as follows:

(1) Data is read in from each set of punched cards corresponding to a blue case;

(2) Recoding subroutines assign blue items the appropriate yellow codes, where necessary. For example, occupant sex in the blue form is coded as 1 = male, 2 = female, 3 = unknown, and must be recoded to fit the yellow codes of 4 = male, 5 = female, 0 = unknown;

(3) The data contained in each blue card and card column are reassigned according to the yellow format and new yellow cards are thus punched for each blue case.

C. EDICAR

A more comprehensive editing program, EDICAR, was written to reduce manual editing demands. The EDICAR program also stores the corrected data from the yellow CARF's and the converted blue CARF's on magnetic tape. This program makes use of certain logical relations which can be found in the yellow forms to check for consistency in each case. For example, if the entry in yellow card 03, column 30, is 1 (denoting sheet metal damage to front), then one should expect a nonzero entry in columns 36-38 (denoting frontal crush dimensions). If a case is found with an inconsistency, it is listed under the error check. The original information can then be checked to see if there is actually an inconsistent entry or whether there was a keypunch error. The logic in the error-check portion of EDICAR is described in Appendix D. After a case is edited by the error-check subroutine, it is stored in two files, a vehicle file, and an occupant file. The separate files facilitate retrieval.

Further explanation of EDICAR is in Appendix D. A flow chart of the program, an explanation of its variables, and a listing of the program appear there.

III. ANALYSIS OF THE DATA

With a large set of data such as the accident file in this project, the only feasible method of analysis is by computer. Three basic types of programs were used to complete the analysis: a general program called SELECT, a package of programs called the BMD package, and other specific programs written for particular analyses not covered by the first two types. These programs will be discussed in this section.

A. SELECT

A program called SELECT has been written to retrieve the data in yellow punched card format from files corresponding to either vehicles or occupants. Several subroutines are necessary for data retrieval, depending on the specific combination of variables to be analyzed. The program forms subsets of data based on the variables of interest. Analyses can then be performed on the data subset using another program. Even though this program does not actually perform analyses, it is discussed here because it is a step that is taken to prepare for analysis of the data.

The program has also been modified to make corrections on the data files. Appendix E consists of a flow chart, explanation of variables, and a listing of the program SELECT.

B. BMD Programs

An extant package of statistical analysis programs written by the UCLA computing center staff and described in the BMD (Bio-Medical Data) Manual, forms the core of our statistical analysis capability. Programs of direct applicability to accident data analysis include alphanumeric frequency counts, histograms, bivariate frequency tables with chi-square values, regression analysis, etc.

A brief explanation of each of the BMD programs used, follows:

(1) **BMD04D Alphanumeric Frequency Count.** This program will tabulate the frequency of all characters that appear in a single column of a case for all cases.

(2) **BMD05D General Plot Including Histogram.** This program will tabulate the frequency of a numerical variable with up to 33 categories, and print out a histogram.

(3) **BMD08D Cross-Tabulation with Variable Stacking.** This program tabulates a bivariate table of frequencies of integer variables. It allows stacking several variables into one of the variables. It also calculates the chi-square statistic.

(4) **BMD02S Contingency Table Analysis.** This program computes two-way frequency and percentage tables of any numeric data with up to 22 categories. The chi-square statistic and several other statistics are calculated.

An example computer printout for each of the above BMD programs is printed in Appendix F.

C. Other Analysis Programs

Various other specific programs were written to retrieve data when BMD programs were not applicable. There are two basic problems with the BMD programs. The only BMD program which allows use of alphabetic characters is BMD04D. Therefore, whenever any analysis was done with alphabetic characters, a special program had to be written. The BMD programs are also fairly general, so when a complicated table was desired, a program had to be written. Six programs were devised for these special cases. Their content is as follows:

(1) VDI list by teams and countries;

(2) VDI list divided into groups by the VDI general damage type and ordered by impact force direction and damage severity;

(3) Average AIS and contact frequency broken down by VDI force direction, damage severity, and contact area;

(4) VDI frequency count tabulated by general damage type and horizontal damage;

(5) AIS rating by VDI damage extent, general damage type, and occupant position;

(6) Evaluation of errors made by NATO VDI raters when compared to SwRI ratings.

Because of their specific nature and their length, these programs will not be explained in detail.

IV. PROGRAM CONVERSION

All of the computer work for this project was done on a CDC 6500-type computer. The programming is all in FORTRAN, a scientifically oriented computer language. In order to save time and money, the programs were written specifically for the CDC 6500, using all of the features available to their best advantage. Therefore, the programs used are not compatible with other types of computers. To write a set of general programs that was compatible with other types of computers would have required a much greater expenditure of time and effort than was deemed available.

The conversion of the programs used in this project to be used on another computer involves several problems. Most of the basic FORTRAN statements are similar as to name and structure; however, the more complicated and thereby more useful statements are different in syntax. These changes are merely superficial in the program. One real problem occurs when there is no counterpart for a particular word or statement. An example from these programs is the ENCODE and DECODE statements. No IBM computer has an equivalent for these words. These two statements are available because of the particular way that data must be handled in the CDC 6500. Alphanumeric data are stored at 10 characters per word of computer space, and the ENCODE and DECODE statements allow the user to insert and retrieve specific characters to and from that string. IBM-type computers, for example, handle only 8 characters per word; but IBM allows half-words and quarter-words, making it the user's advantage to store data as variables rather than character strings. The entire data handling setup in the programs would have to be changed. This is a structural rather than superficial change, and would require much time and effort.

The BMD package that has been used in this program is written in FORTRAN. Similar packages of statistical programs are probably available on most large computer facilities. This particular set of programs was developed at UCLA and discussed in a manual entitled **Biomedical Computer Programs**, edited by W. J. Dixon, and printed by the University of California Press in Berkeley, Los Angeles, and London, revised in 1971.

V. FREQUENCY TABLES

A frequency count of all the variables in the data set was made. The basic source for the count is the printout from the BMD04D program. This program only accounts for single-columned variables, so the other variables frequencies were obtained by other means. BMD02S and BMD08D were used to count these frequencies. Dummy variables were placed in the BMD04D program at places where nonsingle-columned variables are listed. The frequencies of these variables were then added to the table by hand. Partially and completely descriptive names were then typed as references above the variables frequencies. The variables are listed in the order that they occur in the Yellow CARF codebook. For the code explanations, Appendix A of this volume is a copy of the yellow book.

An explanation of the variable numbers on the listing must be made. These numbers are references set up within the BMD04D program to give order to the elements that are being counted. Unfortunately, more than one run had to be made to secure all of the variables, and these references always start at number one for a new run. Several runs had to be made because the program does not allow enough computer storage to hold the massive number of variables and cases that this accident file has. For this reason, these variable numbers do not correspond to the actual variable numbers of the file.

```
BMD04D - ALPHANUMERIC FREQUENCY COUNT - VERSION OF  MAY  22, 1969
HEALTH SCIENCES COMPUTING FACILITY, UCLA
PROBLEM CODE CDB1-.
NUMBER OF OBSERVATIONS =   520
```

```
 NUMBER OF CASES           MONTH OF ACCIDENT         DAY OF ACCIDENT           DAY OF ACCIDENT           DAY OF ACCIDENT
*  VARIABLE NUMBER    1 **  VARIABLE NUMBER    2 **  VARIABLE NUMBER    3 **  VARIABLE NUMBER    4 **  VARIABLE NUMBER    5 *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *

*     1       520       **     1        35       **     1        15       **    13        19       **    25        16       *
*                       **     2        38       **     2        12       **    14        16       **    26        17       *
*                       **     3        66       **     3        16       **    15        22       **    27        16       *
*                       **     4        34       **     4        15       **    16        26       **    28        10       *
*                       **     5        60       **     5        13       **    17        12       **    29        16       *
*                       **     6        59       **     6        16       **    18         9       **    30         8       *
*                       **     7        51       **     7         8       **    19         8       **    31         9       *
*                       **     8        45       **     8         7       **    20        12       **  BLANK       96       *
*                       **     9        42       **     9        18       **    21         8       **                       *
*                       **    10        22       **    10         8       **    22        15       **                       *
*                       **    11        33       **    11        12       **    23        16       **                       *
                              12        26             12        22             24        11
                           BLANK        11
```

```
 YEAR OF ACCIDENT          VEHICLE TO OBJECT         ROLLOVER                  RAN OFF ROADWAY           VEHICLE TO VEHICLE
*  VARIABLE NUMBER    6 **  VARIABLE NUMBER    7 **  VARIABLE NUMBER    8 **  VARIABLE NUMBER    9 **  VARIABLE NUMBER   10 *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *

*    70         7       **     1       105       **     1        47       **     1        86       **     2       131       *
*    71       309       **     2       414       **     2       473       **     2       434       **     3       186       *
*    72       201       **  BLANK        1       **                       **                       **     4       169       *
*  BLANK        3       **                       **                       **                       **     5        19       *
*                       **                       **                       **                       **     6        15       *
```

```
 VEH. TO STOPPED VEH.      VEH. TO MOVING VEH.       VEH. TO PEDESTRIAN        OTHER                     NUMBER OF VEHICLES INVOLVED
*  VARIABLE NUMBER   11 **  VARIABLE NUMBER   12 **  VARIABLE NUMBER   13 **  VARIABLE NUMBER   14 **  VARIABLE NUMBER   15 *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *

*     1        56       **     1       336       **     1         2       **     0         1       **     0         2       *
*     2       464       **     2       184       **     2       518       **     1        12       **     1       126       *
*                       **                       **                       **     2       505       **     2       337       *
*                       **                       **                       **     3         2       **     3        38       *
*                       **                       **                       **                       **     4        10       *
*                       **                       **                       **                       **     5         3       *
*                       **                       **                       **                       **     6         3       *
*                       **                       **                       **                       **     8         1       *
```

```
 OBJECTS CONTACTED         OBJECTS CONTACTED         TYPE OF LOSS              COUNTRY VEH. BUILT IN     MANUFACTURER
*  VARIABLE NUMBER   16 **  VARIABLE NUMBER   17 **  VARIABLE NUMBER   18 **  VARIABLE NUMBER   19 **  VARIABLE NUMBER   20 *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *

*    00        99       **    12        73       **     0         1       **     0         1       **     0         4       *
*    02       490       **    13         1       **     1        16       **     1       191       **     1       187       *
*    03       363       **    14         0       **     2        51       **     2         4       **     2        88       *
*    04        70       **    15         2       **     3       449       **     4        61       **     3        48       *
*    05        33       **    16        66       **  BLANK        3       **     5        69       **     4        17       *
*    06        10       **    17        10       **                       **     6        93       **     5        43       *
*    07        23       **    18         2       **                       **     7        58       **     6       110       *
*    08        32       **    19        13       **                       **     8        17       **     7        31       *
*    09        20       **    20        15       **                       **     9        29       **     8        19       *
*    10         3       **    99        39       **                       **  BLANK        1       **                       *
*    11        14       **  OTHER        4       **                       **                       **                       *
```

```
 DIVISION                  VIN BODY STYLE            VIN BODY STYLE            RT. OR LT. HAND DRIVE     MODEL  YEAR
*  VARIABLE NUMBER   21 **  VARIABLE NUMBER   22 **  VARIABLE NUMBER   23 **  VARIABLE NUMBER   24 **  VARIABLE NUMBER   25 *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *

*     0        11       **    00         8       **    10         3       **     1       458       **     0         5       *
*     1       208       **    01        52       **    11         6       **     2        62       **    57         1       *
*     2        77       **    02        76       **    12        11       **                       **    58         1       *
*     3        59       **    03         6       **    13         1       **                       **    59         1       *
*     4        42       **    06        23       **    18        10       **                       **    60         2       *
*     5        69       **    07         1       **    19        86       **                       **    61         5       *
*     6         7       **    08       110       **    60         2       **                       **    62         6       *
*     8        20       **    09       159       **                       **                       **    63         3       *
*     9        10       **                       **                       **                       **    64         3       *
```

```
 MODEL YEAR                VEH. WEIGHT (100 KG.)     ODOMETER READING          SPEED PRIOR TO IMPACT
                                                     (10,000 KM.)              (KPH)                     IMPACT SPEED (KPH)
*  VARIABLE NUMBER   26 **  VARIABLE NUMBER   27 **  VARIABLE NUMBER   28 **  VARIABLE NUMBER   29 **  VARIABLE NUMBER   30 *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *

*    65        12       **    0-5       27       **    0-2      212       **    0-15      66       **    0-15      67       *
*    66        12       **    5-10     190       **    2-4      107       **   15-30      23       **   15-30      66       *
*    67        32       **   10-15     163       **    4-6       78       **   30-45      35       **   30-45      81       *
*    68        39       **   15-20     112       **    6-8       53       **   45-60      75       **   45-60      71       *
*    69        70       **   20-25      14       **    8-10      28       **   60-75      76       **   60-75      52       *
*    70       121       **   25-30       3       **   10-12      21       **   75-90      58       **   75-90      29       *
*    71       158       **   30-35       0       **   12-14       8       **   90-105     61       **   90-105     20       *
*    72        51       **   35-40       0       **   14-16       5       **  105-120     22       **  105-120     13       *
*                       **   40-45       0       **   16-18       2       **  120-135     14       **  120-135      7       *
*                       **   45-50+      1       **   18-20+      6       **  135-150      5       **  135-150      0       *
```

BODY STYLE

VARIABLE NUMBER 31

SYMBOL	FREQUENCY
1	94
2	169
3	14
4	170
5	37
6	12
7	1
8	8
9	2
10	2
11	11

BODY STRUCTURE

VARIABLE NUMBER 32

SYMBOL	FREQUENCY
0	3
1	130
2	285
3	95
4	7

ENGINE LOCATION

VARIABLE NUMBER 33

SYMBOL	FREQUENCY
0	1
1	218
2	98
3	1
4	1
5	39
7	1
BLANK	161

NUMBER OF CYLINDERS

VARIABLE NUMBER 34

SYMBOL	FREQUENCY
0	2
3	13
4	300
6	55
8	150

ENGINE DISPLACEMENT (LITERS)

VARIABLE NUMBER 35

SYMBOL	FREQUENCY
0.0-0.5	9
0.5-1.0	18
1.0-1.5	74
1.5-2.0	80
2.0-2.4	35
2.5-3.0	13
3.0-3.5	6
3.5-4.0	10
4.0-4.5	9
4.5-5.0	5
5.0-5.5	21

NUMBER OF OCCUPANTS

VARIABLE NUMBER 36

SYMBOL	FREQUENCY
0	1
1	286
2	131
3	52
4	43
5	4
6	2
7	1

VEHICLE LOADING

VARIABLE NUMBER 37

SYMBOL	FREQUENCY
0	3
4	458
5	57
6	2

TRANSMISSION

VARIABLE NUMBER 38

SYMBOL	FREQUENCY
0	1
4	136
5	222
BLANK	161

STEERING

VARIABLE NUMBER 39

SYMBOL	FREQUENCY
0	2
4	98
5	259
BLANK	161

BRAKES

VARIABLE NUMBER 40

SYMBOL	FREQUENCY
0	9
4	163
5	187
BLANK	161

BRAKES-TYPE

VARIABLE NUMBER 41

SYMBOL	FREQUENCY
0	4
4	151
5	142
6	62
BLANK	161

BRAKE ANTI-LOCK DEVICE

VARIABLE NUMBER 42

SYMBOL	FREQUENCY
0	4
2	343
4	6
5	6
BLANK	161

CONVERTIBLE TOP OR SUN ROOF POSITION

VARIABLE NUMBER 43

SYMBOL	FREQUENCY
0	2
2	2
3	485
4	16
5	4
6	1
7	10

PRIMARY VDI O'CLOCK DIRECTION

VARIABLE NUMBER 44

SYMBOL	FREQUENCY
00	42
01	57
02	28
03	31
04	1
05	4
06	23
07	3
08	4
09	29
10	22
11	70
12	205

VDI GENERAL TYPE P

VARIABLE NUMBER 45

SYMBOL	FREQUENCY
B	28
F	310
L	63
R	61
T	29
U	3
X	19
1	1
BLANK	3

VDI HORZ. DAMAGE P

VARIABLE NUMBER 46

SYMBOL	FREQUENCY
B	12
C	15
D	195
E	1
F	39
L	47
P	2
R	38
W	40
Y	36
Z	49
9	1
BLANK	5

VDI VERT. DAMAGE P

VARIABLE NUMBER 47

SYMBOL	FREQUENCY
A	105
E	284
G	18
H	36
L	7
M	60
Q	2
X	2
3	1
BLANK	5

VDI DAMAGE TYPE P

VARIABLE NUMBER 48

SYMBOL	FREQUENCY
A	3
E	19
H	1
N	47
O	41
S	12
W	387
Y	1
D	2
1	1
BLANK	6

VDI DAMAGE EXTENT P

VARIABLE NUMBER 49

SYMBOL	FREQUENCY
0	2
1	57
2	130
3	152
4	75
5	38
6	35
7	18
8	6
9	7
BLANK	6

PRIMARY PERCENT DEFORM.

VARIABLE NUMBER 50

SYMBOL	FREQUENCY
0-9	297
10-19	95
20-29	63
30-39	36
40-49	11
50-59	6
60-69	7
70-79	2
80-89	3
90-99	0

SECONDARY VDI O'CLOCK POSITION

VARIABLE NUMBER 51

SYMBOL	FREQUENCY
00	392
01	9
02	8
03	27
04	5
05	2
06	4
07	4
08	4
09	26
10	6
11	10
12	22

VDI GENERAL TYPE S

VARIABLE NUMBER 52

SYMBOL	FREQUENCY
B	6
E	1
F	34
L	53
R	41
T	15
X	3
9	4
BLANK	353

VDI HORZ. DAMAGE S

VARIABLE NUMBER 53

SYMBOL	FREQUENCY
B	38
C	6
D	41
F	19
L	8
P	25
R	8
Y	4
Z	19
9	4
BLANK	353

VDI VERT. DAMAGE S

VARIABLE NUMBER 54

SYMBOL	FREQUENCY
A	17
E	56
G	9
H	21
L	6
M	50
Q	3
1	1
BLANK	353

VDI DAMAGE TYPE S

VARIABLE NUMBER 55

SYMBOL	FREQUENCY
E	3
N	26
O	30
S	15
W	37
Q	10
BLANK	359

VDI DAMAGE EXTENT

VARIABLE NUMBER 56

SYMBOL	FREQUENCY
0	5
1	84
2	41
3	25
4	4
5	2
6	1
8	1
9	1
BLANK	352

SECONDARY PERCENT DEFORMATION

VARIABLE NUMBER 57

SYMBOL	FREQUENCY
0-9	484
10-19	23
20-29	7
30-39	4
40-49	2
50-59	0
60-69	0
70-79	0
80-89	0
90-99	0

SHEET METAL DAMAGE F

VARIABLE NUMBER 58

SYMBOL	FREQUENCY
0	1
1	338
2	181

SHEET METAL DAMAGE R

VARIABLE NUMBER 59

SYMBOL	FREQUENCY
0	3
1	65
2	452

SHEET METAL DAMAGE L

VARIABLE NUMBER 60

SYMBOL	FREQUENCY
0	1
1	204
2	315

SHEET METAL DAMAGE RT
VARIABLE NUMBER 61

SYMBOL	FREQUENCY
0	2
1	192
2	325
BLANK	1

SHEET METAL DAMAGE ROOF
VARIABLE NUMBER 62

SYMBOL	FREQUENCY
0	2
1	109
2	409
3	1

SHEET METAL DAMAGE OTHER
VARIABLE NUMBER 63

SYMBOL	FREQUENCY
0	9
1	43
2	462
3	2
BLANK	4

SHEET METAL CRUSH F
VARIABLE NUMBER 64

SYMBOL	FREQUENCY
0-9	143
10-19	42
20-29	56
30-39	49
40-49	47
50-59	33
60-69	31
70-79	22
80-89	7
90-99	25
100+	29

SHEET METAL CRUSH R
VARIABLE NUMBER 65

SYMBOL	FREQUENCY
0-9	472
10-19	8
20-29	11
30-39	8
40-49	0
50-59	1
60-69	0
70-79	4
80-89	1
90+	6

SHEET METAL CRUSH L
VARIABLE NUMBER 66

SYMBOL	FREQUENCY
0-9	363
10-19	36
20-29	38
30-39	24
40-49	9
50-59	5
60-69	6
70-79	4
80-89	1
90+	11

SHEET METAL CRUSH RT.
VARIABLE NUMBER 67

SYMBOL	FREQUENCY
0-9	380
10-19	43
20-29	21
30-39	20
40-49	11
50-59	7
60-69	6
70-79	2
80-89	1
90+	9

SHEET METAL CRUSH ROOF
VARIABLE NUMBER 68

SYMBOL	FREQUENCY
0-9	438
10-19	24
20-29	11
30-39	8
40-49	3
50-59	4
60-69	1
70-79	2
80-89	0
90+	6

SHEET METAL CRUSH OTHER
VARIABLE NUMBER 69

SYMBOL	FREQUENCY
0-9	495
10-19	7
20-29	5
30-39	0
40-49	2
50-59	0
60-69	0
70-79	0
80-89	0
90+	2

VIDI LOCATION
VARIABLE NUMBER 70

SYMBOL	FREQUENCY
AS	193
RS	15
LS	21
FS	45
BS	9
RF	32
RR	2
LR	6
LF	20
NC	0

VDI COLUMN 3
VARIABLE NUMBER 71

SYMBOL	FREQUENCY
0	289
1	51
2	8
3	5
4	2
5	1
9	1
BLANK	163

VDI COLUMN 4
VARIABLE NUMBER 72

SYMBOL	FREQUENCY
0	289
1	38
2	12
3	7
4	5
5	4
6	1
9	1
BLANK	163

VDI COLUMN 5
VARIABLE NUMBER 73

SYMBOL	FREQUENCY
0	257
1	73
2	14
3	7
4	4
5	1
6	1
BLANK	163

VDI COLUMN 6
VARIABLE NUMBER 74

SYMBOL	FREQUENCY
0	306
1	40
2	4
3	4
4	1
6	1
8	1
BLANK	163

VDI COLUMN 7
VARIABLE NUMBER 75

SYMBOL	FREQUENCY
0	263
1	50
2	26
3	10
4	4
5	2
6	1
9	1
BLANK	163

VDI O'CLOCK INVESTIGATOR 1
VARIABLE NUMBER 76

SYMBOL	FREQUENCY
00	44
01	58
02	32
03	27
04	0
05	5
06	23
07	3
08	5
09	27
10	25
11	74
12	197

VDI GENERAL TYPE INVESTIGATOR 1
VARIABLE NUMBER 77

SYMBOL	FREQUENCY
B	28
F	319
L	62
R	59
T	30
U	3
X	19
1	1
BLANK	9

VDI HORZ. DAMAGE INVESTIGATOR 1
VARIABLE NUMBER 78

SYMBOL	FREQUENCY
B	13
C	15
D	197
E	1
F	36
G	1
L	47
O	2
P	38
R	42
S	1
X	1
Y	73
Z	48
BLANK	5

VDI VERT. DAMAGE INVESTIGATOR 1
VARIABLE NUMBER 79

SYMBOL	FREQUENCY
A	111
E	279
G	19
H	32
L	6
M	65
O	2
X	4
Y	1
3	1
BLANK	5

VDI DAMAGE TYPE INVESTIGATOR 1
VARIABLE NUMBER 80

SYMBOL	FREQUENCY
A	3
E	20
N	50
O	42
S	11
W	384
Y	1
O	3
1	1
BLANK	5

VDI DAMAGE EXTENT INVESTIGATOR 1
VARIABLE NUMBER 81

SYMBOL	FREQUENCY
0	2
1	53
2	128
3	156
4	67
5	39
6	37
7	17
8	6
9	8
BLANK	7

VDI PERCENT DEFORM. INVESTIGATOR 1
VARIABLE NUMBER 82

SYMBOL	FREQUENCY
0-9	297
10-19	93
20-29	65
30-39	34
40-49	12
50-59	5
60-69	7
70-79	2
80-89	5
90+	0

VDI O'CLOCK INVESTIGATOR 2
VARIABLE NUMBER 83

SYMBOL	FREQUENCY
00	177
01	37
02	16
03	22
04	6
05	4
06	16
07	3
08	3
09	26
10	12
11	46
12	152

VDI GENERAL TYPE INVESTIGATOR 2
VARIABLE NUMBER 84

SYMBOL	FREQUENCY
B	21
F	223
L	47
R	46
T	23
U	3
X	4
BLANK	150

VDI HORZ. DAMAGE INVESTIGATOR 2
VARIABLE NUMBER 85

SYMBOL	FREQUENCY
B	8
C	8
D	143
F	29
L	35
O	2
P	30
R	26
X	2
Y	53
Z	34
BLANK	150

VDI VERT. DAMAGE INVESTIGATOR 2
VARIABLE NUMBER 86

SYMBOL	FREQUENCY
A	72
E	212
G	19
H	25
L	3
M	41
O	2
X	1
BLANK	150

VDI DAMAGE TYPE INVESTIGATOR 2
VARIABLE NUMBER 87

SYMBOL	FREQUENCY
A	2
E	19
N	30
O	29
S	6
W	283
Y	1
O	3
BLANK	150

VDI DAMAGE EXTENT INVESTIGATOR 2
VARIABLE NUMBER 88

SYMBOL	FREQUENCY
0	2
1	30
2	102
3	103
4	58
5	29
6	28
7	11
8	5
9	6
BLANK	151

VDI PERCENT DEFORM. INVESTIGATOR 2
VARIABLE NUMBER 89

SYMBOL	FREQUENCY
0-9	334
10-19	76
20-29	55
30-39	31
40-49	11
50-59	4
60-69	6
70-79	1
80-89	2
90+	0

VDI O'CLOCK CONCENSUS
VARIABLE NUMBER 90

SYMBOL	FREQUENCY
00	42
01	57
02	27
03	31
04	1
05	4
06	23
07	3
08	4
09	30
10	22
11	72
12	204

VDI GENERAL TYPE CONCENSUS
VARIABLE NUMBER 91

SYMBOL	FREQUENCY
B	28
F	319
L	63
M	60
T	30
U	3
X	15
1	1
BLANK	11

VDI HORZ. DAMAGE CONCENSUS
VARIABLE NUMBER 92

SYMBOL	FREQUENCY
B	11
C	15
D	196
F	39
G	1
L	47
O	2
P	36
R	40
X	2
Y	78
Z	50
0	1
BLANK	13

VDI VERT. DAMAGE CONCENSUS
VARIABLE NUMBER 93

SYMBOL	FREQUENCY
A	105
E	289
G	17
H	34
L	6
M	58
[illegible]	2
[illegible]	1
[illegible]	3
[illegible]	1
[illegible]	1
BLANK	13

VDI DAMAGE TYPE CONCENSUS
VARIABLE NUMBER 94

SYMBOL	FREQUENCY
A	3
E	19
K	1
N	69
O	60
S	11
W	387
V	1
0	4
1	1
BLANK	14

VDI DAMAGE EXTENT CONCENSUS
VARIABLE NUMBER 95

SYMBOL	FREQUENCY
0	3
1	51
2	129
3	152
4	76
5	39
6	35
7	17
8	6
9	7
BLANK	15

VDI PERCENT DEFORM. CONCENSUS
VARIABLE NUMBER 96

SYMBOL	FREQUENCY
0-9	312
10-19	85
20-29	61
30-39	33
40-49	12
50-59	4
60-69	7
70-79	2
80-89	4
90+	0

VDI O'CLOCK SWRI
VARIABLE NUMBER 97

SYMBOL	FREQUENCY
00	45
01	60
02	24
03	37
04	2
05	5
06	2[illegible]
07	3
08	5
09	28
10	21
11	67
12	201

VDI GENERAL TYPE SWRI
VARIABLE NUMBER 98

SYMBOL	FREQUENCY
B	26
F	308
L	67
R	68
T	33
U	3
X	13
BLANK	13

VDI HORZ. DAMAGE SWRI
VARIABLE NUMBER 99

SYMBOL	FREQUENCY
B	18
C	19
D	197
F	38
L	43
P	35
R	34
Y	88
Z	57
BLANK	13

VDI VERT. DAMAGE SWRI
VARIABLE NUMBER 100

SYMBOL	FREQUENCY
A	96
E	312
G	16
H	37
L	5
M	52
X	2
BLANK	13

VDI DAMAGE TYPE SWRI
VARIABLE NUMBER 101

SYMBOL	FREQUENCY
A	6
E	10
K	1
N	48
U	47
S	13
W	384
V	1
BLANK	13

VDI DAMAGE EXTENT SWRI
VARIABLE NUMBER 102

SYMBOL	FREQUENCY
1	59
2	146
3	163
4	69
5	39
6	20
7	9
8	6
9	7
BLANK	13

VDI PERCENT DEFORM. SWRI
VARIABLE NUMBER 103

SYMBOL	FREQUENCY
0-9	270
10-19	118
20-29	64
30-39	36
40-49	14
50-59	8
60-69	5
70-79	2
80-89	1
90+	2

WHEELS O.E. TYPE FRONT
VARIABLE NUMBER 104

SYMBOL	FREQUENCY
0	4
1	394
2	10
7	1
BLANK	161

WHEELS O.E. TYPE REAR
VARIABLE NUMBER 105

SYMBOL	FREQUENCY
0	5
1	392
2	11
7	1
BLANK	161

WHEELS O.E. TYPE DAMAGED
VARIABLE NUMBER 106

SYMBOL	FREQUENCY
0	4
1	155
2	250
BLANK	161

TIRES/TREAD TYPE FRONT
VARIABLE NUMBER 107

SYMBOL	FREQUENCY
0	5
1	1
4	391
5	1
6	7
8	3
9	1
BLANK	161

TIRES/TREAD TYPE REAR
VARIABLE NUMBER 108

SYMBOL	FREQUENCY
0	9
1	1
4	313
5	88
6	7
7	1
8	2
9	2
BLANK	163

TIRES/TREAD WEAR FRONT
VARIABLE NUMBER 109

SYMBOL	FREQUENCY
0	20
1	1
4	192
5	105
6	80
7	2
8	7
BLANK	161

TIRES/TREAD WEAR REAR
VARIABLE NUMBER 110

SYMBOL	FREQUENCY
0	30
1	1
4	196
5	100
6	19
7	3
8	10
BLANK	161

TIRES/PROFILE FRONT
VARIABLE NUMBER 111

SYMBOL	FREQUENCY
0	10
4	298
5	97
6	4
BLANK	161

TIRES/PROFILE REAR
VARIABLE NUMBER 112

SYMBOL	FREQUENCY
0	13
4	338
5	51
6	5
7	1
BLANK	162

TIRES/CARCASS TYPE FRONT
VARIABLE NUMBER 113

SYMBOL	FREQUENCY
0	31
4	189
5	71
6	109
7	2
8	2
BLANK	161

TIRES/CARCASS TYPE REAR
VARIABLE NUMBER 114

SYMBOL	FREQUENCY
0	71
4	186
5	67
6	109
7	7
8	2
BLANK	167

HOOD LATCHES RELEASED
VARIABLE NUMBER 115

SYMBOL	FREQUENCY
0	6
1	271
2	288
3	4
BLANK	1

HOOD LATCHES DAMAGED
VARIABLE NUMBER 116

SYMBOL	FREQUENCY
0	3
1	395
2	167
3	4
BLANK	1

HOOD LATCHES JAMMED
VARIABLE NUMBER 117

SYMBOL	FREQUENCY
0	5
1	198
2	362
3	4
BLANK	1

HOOD HINGES LEFT DAMAGED
VARIABLE NUMBER 118

SYMBOL	FREQUENCY
0	7
1	270
2	288
3	4
BLANK	1

HOOD HINGES LEFT SEPARATED
VARIABLE NUMBER 119

SYMBOL	FREQUENCY
0	0
1	66
2	497
3	6
BLANK	1

HOOD HINGES RIGHT DAMAGED
VARIABLE NUMBER 120

SYMBOL	FREQUENCY
0	7
1	271
2	286
3	4
BLANK	2

HOOD HINGES RIGHT SEPARATED

VARIABLE NUMBER 121

SYMBOL	FREQUENCY
0	10
1	68
2	434
3	6
BLANK	2

HOOD REMAINED ON VEHICLE

VARIABLE NUMBER 122

SYMBOL	FREQUENCY
1	332
2	22
3	4
BLANK	162

HOOD/REAR EDGE ELEVATED

VARIABLE NUMBER 123

SYMBOL	FREQUENCY
0	6
1	281
2	225
3	7
BLANK	1

HOOD/REAR EDGE CONTACTED WINDSHIELD

VARIABLE NUMBER 124

SYMBOL	FREQUENCY
0	28
1	84
2	392
3	15
BLANK	1

HOOD/REAR EDGE PENETRATED WINDSHIELD

VARIABLE NUMBER 125

SYMBOL	FREQUENCY
0	30
1	35
2	423
3	31
BLANK	1

OPTIONAL HOOD INSTALLED

VARIABLE NUMBER 126

SYMBOL	FREQUENCY
0	6
1	4
2	348
BLANK	162

ENGINE OR TRANSMISSION MOUNT SEPARATION

VARIABLE NUMBER 127

SYMBOL	FREQUENCY
0	27
1	107
2	382
3	4

STEERING COLUMN FLEXIBLE COUPLING EQUIPPED

VARIABLE NUMBER 128

SYMBOL	FREQUENCY
0	33
1	319
2	168

STEERING COLUMN FLEXIBLE COUPLING SEPARATED

VARIABLE NUMBER 129

SYMBOL	FREQUENCY
0	57
1	28
2	267
3	168

STEERING COLUMN FLEXIBLE COUPLING OTHER DAMAGE

VARIABLE NUMBER 130

SYMBOL	FREQUENCY
0	61
1	36
2	255
3	168

ENGINE COMPARTMENT TELESCOPING UNIT TYPE

VARIABLE NUMBER 131

SYMBOL	FREQUENCY
0	61
1	91
2	20
3	44
4	5
5	14
6	1
8	262
9	1
BLANK	18

ENGINE COMPARTMENT TELESCOPING UNIT DEFORM.

VARIABLE NUMBER 132

SYMBOL	FREQUENCY
0-4	79
4-8	7
8-12	2
12-16	2
16-20	1

FIRE

VARIABLE NUMBER 133

SYMBOL	FREQUENCY
1	10
2	507
BLANK	3

FIRE EXTENT

VARIABLE NUMBER 134

SYMBOL	FREQUENCY
1	2
2	1
3	507
4	2
5	5
BLANK	3

FIRE ORIGIN

VARIABLE NUMBER 135

SYMBOL	FREQUENCY
0	4
3	507
4	4
7	2
BLANK	3

LEFT PILLARS

VARIABLE NUMBER 136

SYMBOL	FREQUENCY
1	171
3	1
BLANK	348

LEFT PILLARS UPPER A-PILLAR DAMAGED

VARIABLE NUMBER 137

SYMBOL	FREQUENCY
0	2
1	135
2	50
BLANK	333

LEFT PILLARS UPPER A-PILLAR SEPARATED

VARIABLE NUMBER 138

SYMBOL	FREQUENCY
0	4
1	10
2	173
BLANK	333

LEFT PILLARS LOWER A-PILLAR DAMAGED

VARIABLE NUMBER 139

SYMBOL	FREQUENCY
0	3
1	119
2	65
BLANK	333

LEFT PILLARS LOWER A-PILLAR SEPARATED

VARIABLE NUMBER 140

SYMBOL	FREQUENCY
0	5
1	8
2	174
BLANK	333

LEFT PILLARS UPPER B-PILLAR DAMAGED

VARIABLE NUMBER 141

SYMBOL	FREQUENCY
0	2
1	72
2	74
3	39
BLANK	333

LEFT PILLARS UPPER B-PILLAR SEPARATED

VARIABLE NUMBER 142

SYMBOL	FREQUENCY
0	2
1	14
2	132
3	39
BLANK	333

LEFT PILLARS LOWER B-PILLAR DAMAGED

VARIABLE NUMBER 143

SYMBOL	FREQUENCY
0	4
1	86
2	95
3	2
BLANK	333

LEFT PILLARS LOWER B-PILLAR SEPARATED

VARIABLE NUMBER 144

SYMBOL	FREQUENCY
0	4
1	11
2	171
3	1
BLANK	333

LEFT PILLARS UPPER C-PILLAR DAMAGED

VARIABLE NUMBER 145

SYMBOL	FREQUENCY
0	2
1	63
2	109
3	13
BLANK	333

LEFT PILLARS UPPER C-PILLAR SEPARATED

VARIABLE NUMBER 146

SYMBOL	FREQUENCY
0	2
1	3
2	169
3	13
BLANK	333

LEFT PILLARS LOWER C-PILLAR DAMAGED

VARIABLE NUMBER 147

SYMBOL	FREQUENCY
0	2
1	55
2	116
3	14
BLANK	333

LEFT PILLARS LOWER C-PILLAR SEPARATED

VARIABLE NUMBER 148

SYMBOL	FREQUENCY
0	4
2	169
3	14
BLANK	333

LEFT PILLARS UPPER D-PILLAR DAMAGED

VARIABLE NUMBER 149

SYMBOL	FREQUENCY
1	2
2	19
3	166
BLANK	333

LEFT PILLARS UPPER D-PILLAR SEPARATED

VARIABLE NUMBER 150

SYMBOL	FREQUENCY
1	1
2	19
3	167
BLANK	333

LEFT PILLARS LOWER D-PILLAR DAMAGED

VARIABLE NUMBER 151

SYMBOL	FREQUENCY
1	4
2	18
3	165
BLANK	333

LEFT PILLARS LOWER D-PILLAR SEPARATED

VARIABLE NUMBER 152

SYMBOL	FREQUENCY
2	22
3	165
BLANK	333

LEFT ROOF SIDE RAILS DAMAGED

VARIABLE NUMBER 153

SYMBOL	FREQUENCY
0	4
1	107
2	83
3	5
BLANK	321

LEFT ROOF SIDE RAILS BUCKLED

VARIABLE NUMBER 154

SYMBOL	FREQUENCY
0	4
1	83
2	107
3	5
BLANK	321

LEFT SIDE STRUCTURE

VARIABLE NUMBER 155

SYMBOL	FREQUENCY
0	18
1	28
2	118
3	308
BLANK	48

LEFT BODY MOUNT SEPARATION

VARIABLE NUMBER 156

SYMBOL	FREQUENCY
1	226
2	1
3	2
BLANK	291

DOOR LATCHES LEFT FRONT DAMAGED

VARIABLE NUMBER 157

SYMBOL	FREQUENCY
0	16
1	138
2	142
BLANK	224

DOOR LATCHES LEFT FRONT RELEASED

VARIABLE NUMBER 158

SYMBOL	FREQUENCY
0	15
1	70
2	211
BLANK	224

DOOR LATCHES LEFT REAR DAMAGED

VARIABLE NUMBER 159

SYMBOL	FREQUENCY
0	6
1	41
2	97
3	152
BLANK	224

DOOR LATCHES LEFT REAR RELEASED

VARIABLE NUMBER 160

SYMBOL	FREQUENCY
0	3
1	14
2	127
3	152
BLANK	224

```
       DOOR HINGES              DOOR HINGES              DOOR HINGES              DOOR HINGES
       LEFT FRONT               LEFT FRONT                LEFT REAR                LEFT REAR         CONTINUITY OF SIDE
         DAMAGED                 SEPARATED                 DAMAGED                 SEPARATED        STRUCTURE MAINTAINED
*  VARIABLE NUMBER 161  **  VARIABLE NUMBER 162  **  VARIABLE NUMBER 163  **  VARIABLE NUMBER 164  **  VARIABLE NUMBER 165  *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *
*                       **                       **                       **                       **                       *
*     0        14       **     0         6       **     0         4       **     0         3       **     0         4       *
*     1       104       **     1        11       **     1        15       **     1         1       **     1        43       *
*     2       178       **     2       279       **     2       126       **     2       140       **     2        70       *
*   BLANK     224       **   BLANK     224       **     3       151       **     3       152       **     7         1       *
*                       **                       **   BLANK     224       **   BLANK     224       **   BLANK     402       *

      DOORS OPENED             DOORS OPENED
    DURING COLLISION         DURING COLLISION       DOORS JAMMED CLOSED      DOORS JAMMED CLOSED    APPROXIMATE FUEL LEVEL
          FRONT                    REAR                    FRONT                    REAR              AT TIME OF IMPACT
*  VARIABLE NUMBER 166  **  VARIABLE NUMBER 167  **  VARIABLE NUMBER 168  **  VARIABLE NUMBER 169  **  VARIABLE NUMBER 170  *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *
*                       **                       **                       **                       **                       *
*     0        17       **     0         8       **     0         8       **     0         3       **     0       232       *
*     1        70       **     1        10       **     1       122       **     1        46       **     4        93       *
*     2       211       **     2       128       **     2       168       **     2        97       **     5       195       *
*   BLANK     222       **     3       152       **   BLANK     222       **     3       152       **                       *
*                       **   BLANK     222       **                       **   BLANK     222       **                       *

                                                                              LOCATION OF LEAKS        LOCATION OF LEAKS
     TANK RETENTION           TANK DEFORMED         FUEL LEAKAGE PRESENT        FROM THE TANK            FROM THE NECK
*  VARIABLE NUMBER 171  **  VARIABLE NUMBER 172  **  VARIABLE NUMBER 173  **  VARIABLE NUMBER 174  **  VARIABLE NUMBER 175  *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *
*                       **                       **                       **                       **                       *
*     0         8       **     0         8       **     0        10       **     0         7       **     0         8       *
*     4       489       **     1        66       **     1        48       **     1        22       **     1        12       *
*     5        14       **     2       444       **     2       462       **     2        26       **     2        35       *
*     6         9       **     4         2       **                       **     3       465       **     3       465       *

    LOCATION OF LEAKS          TRAILER HITCH          OBJECT BEING TOWED     TAILGATE PERFORMANCE     TAILGATE PERFORMANCE
     FROM THE LINES              INSTALLED          (AT TIME OF COLLISION)     LATCHES RELEASED         LATCHES DAMAGED
*  VARIABLE NUMBER 176  **  VARIABLE NUMBER 177  **  VARIABLE NUMBER 178  **  VARIABLE NUMBER 179  **  VARIABLE NUMBER 180  *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *
*                       **                       **                       **                       **                       *
*     0         9       **     0         1       **     0         6       **     0         1       **     0         1       *
*     1        25       **     1        24       **     2       492       **     1        10       **     1         8       *
*     2        21       **     2       334       **     3        16       **     2        61       **     2        62       *
*     3       465       **   BLANK     161       **     6         4       **     3         1       **     3         1       *
*                       **                       **     7         2       **   BLANK     447       **   BLANK     448       *

    LATCH OR TAILGATE        BOTTOM LEFT HINGE        BOTTOM LEFT HINGE       BOTTOM RIGHT HINGE       BOTTOM RIGHT HINGE
         JAMMED                   DAMAGED                 SEPARATED                DAMAGED                 SEPARATED
*  VARIABLE NUMBER 181  **  VARIABLE NUMBER 182  **  VARIABLE NUMBER 183  **  VARIABLE NUMBER 184  **  VARIABLE NUMBER 185  *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *
*                       **                       **                       **                       **                       *
*     0         1       **     1         1       **     2        24       **     1         3       **     1         2       *
*     1         3       **     2        24       **     3        27       **     2        25       **     2        25       *
*     2        67       **     3        26       **   BLANK     469       **     3        23       **     3        24       *
*     4         1       **   BLANK     469       **                       **   BLANK     469       **   BLANK     469       *
*   BLANK     448       **                       **                       **                       **                       *

     TOP LEFT HINGE           TOP LEFT HINGE          TOP RIGHT HINGE          TOP RIGHT HINGE           EQUIPPED WITH
         DAMAGED                 SEPARATED                 DAMAGED                 SEPARATED             TWO-WAY TAILGATE
*  VARIABLE NUMBER 186  **  VARIABLE NUMBER 187  **  VARIABLE NUMBER 188  **  VARIABLE NUMBER 189  **  VARIABLE NUMBER 190  *
*-----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    **  SYMBOL  FREQUENCY    *
*                       **                       **                       **                       **                       *
*     1         2       **     2        35       **     1         4       **     1         2       **     1         8       *
*     2        34       **     3        16       **     2        30       **     2        31       **     2        43       *
*     3        15       **   BLANK     469       **     3        17       **     3        18       **   BLANK     469       *
*   BLANK     469       **                       **   BLANK     469       **   BLANK     469       **                       *

    TAILGATE ELECTRIC
     WINDOW OPERABLE
*  VARIABLE NUMBER 191  *
*-----------------------*
*  SYMBOL  FREQUENCY    *
*                       *
*     0         1       *
*     1         5       *
*     2        17       *
*     3        28       *
*   BLANK     469       *

     END OF OUTPUT FOR PROBLEM CODE CDS1-7



FINISH CARD ENCOUNTERED, PROGRAM TERMINATED


UNASSIGNED MEDIUM,  FILE     TAPE8
ERROR NUMBER   0084 DETECTED BY REWINM  AT ADDRESS 005545
CALLED FROM SRUDSD  AT 001815

ERROR SUMMARY
     ERROR      TIMES
      0084       0001
```

```
BMD04D - ALPHANUMERIC FREQUENCY COUNT - VERSION OF  MAY  22, 1969
HEALTH SCIENCES COMPUTING FACILITY, UCLA
PROBLEM CODE C.0-12
NUMBER OF OBSERVATIONS =   520

      TRUNK LID                 TRUNK LID                 TRUNK LID                 TRUNK LID                 TRUNK LID
     PERFORMANCE               PERFORMANCE               PERFORMANCE               PERFORMANCE               PERFORMANCE
*  VARIABLE NUMBER    1 ** VARIABLE NUMBER    2 ** VARIABLE NUMBER    3 ** VARIABLE NUMBER    4 ** VARIABLE NUMBER    5 *
*-----------------------**------------------------**------------------------**------------------------**------------------------*
*  SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     *
*                                                                                                                           
*    0          6       **   0          8        **   0         11        **   0          6        **   0          6        *
*    1         74       **   1         39        **   1         11        **   1         55        **   1         13        *
*    2        366       **   2        398        **   2        425        **   2        385        **   2        428        *
*    3          5       **   3          6        **   3          4        **   3          5        **   3          4        *
*  BLANK       69       ** BLANK       69        ** BLANK       69        ** BLANK       69        ** BLANK       69        *

      TRUNK LID                 TRUNK LID
     PERFORMANCE               PERFORMANCE             LUGGAGE AREA              LUGGAGE AREA              LUGGAGE AREA
*  VARIABLE NUMBER    6 ** VARIABLE NUMBER    7 ** VARIABLE NUMBER    8 ** VARIABLE NUMBER    9 ** VARIABLE NUMBER   10 *
*-----------------------**------------------------**------------------------**------------------------**------------------------*
*  SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     *
*                                                                                                                           
*    0          6       **   0          6        **   0         17        **   0         42        **   0         41        *
*    1         47       **   1         13        **   1        139        **   1         31        **   1         62        *
*    2        393       **   2        428        **   2        349        **   2        426        **   2        333        *
*    3          5       **   3          4        **   3          7        **   3         11        **   3         74        *
*  BLANK       69       ** BLANK       69        ** BLANK        8        ** BLANK       10        ** BLANK       10        *

  BACKLIGHT HEADER            RIGHT PILLAR              RIGHT PILLAR              RIGHT PILLAR              RIGHT PILLAR
*  VARIABLE NUMBER   11 ** VARIABLE NUMBER   12 ** VARIABLE NUMBER   13 ** VARIABLE NUMBER   14 ** VARIABLE NUMBER   15 *
*-----------------------**------------------------**------------------------**------------------------**------------------------*
*  SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     *
*                                                                                                                           
*    0          5       **   1        177        **   1        128        **   1         15        **   0          1        *
*    1         96       ** BLANK      343        **   2         59        **   2        167        **   1        106        *
*    2        244       **                       ** BLANK      333        ** BLANK      338        **   2         75        *
*    4          7       **                       **                       **                       ** BLANK      338        *
*  BLANK      168       **                       **                       **                       **                       *

     RIGHT PILLAR             RIGHT PILLAR              RIGHT PILLAR              RIGHT PILLAR              RIGHT PILLAR
*  VARIABLE NUMBER   16 ** VARIABLE NUMBER   17 ** VARIABLE NUMBER   18 ** VARIABLE NUMBER   19 ** VARIABLE NUMBER   20 *
*-----------------------**------------------------**------------------------**------------------------**------------------------*
*  SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     *
*                                                                                                                           
*    1          8       **   1         49        **   1         10        **   0          4        **   0          3        *
*    2        174       **   2         72        **   2        131        **   1         74        **   1          6        *
*  BLANK      338       **   3         61        **   3         41        **   2        103        **   2        172        *
*                       ** BLANK      338        ** BLANK      338        **   3          1        **   3          1        *
*                       **                       **                       ** BLANK      338        ** BLANK      338        *

     RIGHT PILLAR             RIGHT PILLAR              RIGHT PILLAR              RIGHT PILLAR              RIGHT PILLAR
*  VARIABLE NUMBER   21 ** VARIABLE NUMBER   22 ** VARIABLE NUMBER   23 ** VARIABLE NUMBER   24 ** VARIABLE NUMBER   25 *
*-----------------------**------------------------**------------------------**------------------------**------------------------*
*  SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     *
*                                                                                                                           
*    1         41       **   1          2        **   0          2        **   0          2        **   1          3        *
*    2        123       **   2        164        **   1         39        **   1          4        **   2         19        *
*    3         18       **   3         16        **   2        127        **   2        160        **   3        160        *
*  BLANK      338       ** BLANK      338        **   3         14        **   3         16        ** BLANK      338        *
*                       **                       ** BLANK      338        ** BLANK      338        **                       *

                                                                                  RIGHT ROOF SIDE           RIGHT ROOF SIDE
     RIGHT PILLAR             RIGHT PILLAR              RIGHT PILLAR              RAILS DAMAGED             RAILS BUCKLED
*  VARIABLE NUMBER   26 ** VARIABLE NUMBER   27 ** VARIABLE NUMBER   28 ** VARIABLE NUMBER   29 ** VARIABLE NUMBER   30 *
*-----------------------**------------------------**------------------------**------------------------**------------------------*
*  SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     *
*                                                                                                                           
*    1          1       **   1          5        **   2         24        **   0          2        **   0          3        *
*    2         20       **   2         20        **   3        158        **   1        102        **   1         83        *
*    3        161       **   3        157        ** BLANK      338        **   2         77        **   2         95        *
*  BLANK      338       ** BLANK      338        **                       **   3          5        **   3          5        *
*                       **                       **                       ** BLANK      334        ** BLANK      334        *

                              SIDE STRUCTURE            SIDE STRUCTURE            SIDE STRUCTURE            SIDE STRUCTURE
  WINDSHIELD HEADER             RIGHT SIDE                RIGHT SIDE                RIGHT SIDE                RIGHT SIDE
*  VARIABLE NUMBER   31 ** VARIABLE NUMBER   32 ** VARIABLE NUMBER   33 ** VARIABLE NUMBER   34 ** VARIABLE NUMBER   35 *
*-----------------------**------------------------**------------------------**------------------------**------------------------*
*  SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     *
*                                                                                                                           
*    0         11       **   0          6        **   1        226        **   0         19        **   0         12        *
*    1         98       **   1         61        ** BLANK      294        **   1        120        **   1         56        *
*    2        216       **   2        144        **                       **   2        154        **   2        225        *
*  BLANK      195       **   3        154        **                       ** BLANK      227        ** BLANK      227        *
*                       ** BLANK      155        **                       **                       **                       *

    SIDE STRUCTURE            SIDE STRUCTURE            SIDE STRUCTURE            SIDE STRUCTURE            SIDE STRUCTURE
      RIGHT SIDE                RIGHT SIDE                RIGHT SIDE                RIGHT SIDE                RIGHT SIDE
*  VARIABLE NUMBER   36 ** VARIABLE NUMBER   37 ** VARIABLE NUMBER   38 ** VARIABLE NUMBER   39 ** VARIABLE NUMBER   40 *
*-----------------------**------------------------**------------------------**------------------------**------------------------*
*  SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     ** SYMBOL  FREQUENCY     *
*                                                                                                                           
*    0          4       **   0          1        **   0         13        **   0         12        **   0          6        *
*    1         41       **   1         20        **   1         97        **   1         10        **   1         23        *
*    2         98       **   2        120        **   2        183        **   2        271        **   2        113        *
*    3        151       **   3        152        ** BLANK      227        ** BLANK      227        **   3        151        *
*  BLANK      227       ** BLANK      227        **                       **                       ** BLANK      227        *
```

SIDE STRUCTURE RIGHT SIDE

VARIABLE NUMBER 41

SYMBOL	FREQUENCY
0	2
1	7
2	130
3	152
BLANK	227

SIDE STRUCTURE RIGHT SIDE

VARIABLE NUMBER 42

SYMBOL	FREQUENCY
0	3
1	112
2	54
3	1
BLANK	350

SIDE STAUCTURE RIGHT SIDE

VARIABLE NUMBER 43

SYMBOL	FREQUENCY
0	10
1	58
2	225
BLANK	227

SIDE STRUCTURE RIGHT SIDE

VARIABLE NUMBER 44

SYMBOL	FREQUENCY
0	3
1	14
2	126
3	150
BLANK	227

SIDE STRUCTURE RIGHT SIDE

VARIABLE NUMBER 45

SYMBOL	FREQUENCY
0	3
1	137
2	152
3	1
BLANK	227

SIDE STRUCTURE RIGHT SIDE

VARIABLE NUMBER 46

SYMBOL	FREQUENCY
0	1
1	45
2	96
3	151
BLANK	227

STEERING WHEEL RIM DAMAGE

VARIABLE NUMBER 47

SYMBOL	FREQUENCY
0	5
2	289
4	117
5	89
6	20

STEERING WHEEL RIM OCCUPANT CONTACT

VARIABLE NUMBER 48

SYMBOL	FREQUENCY
0	80
1	283
2	155
3	1
BLANK	1

STEERING WHEEL SPOKES NO.

VARIABLE NUMBER 49

SYMBOL	FREQUENCY
0	2
1	8
2	344
3	159
4	7

STEERING WHEEL SPOKES DAMAGE

VARIABLE NUMBER 50

SYMBOL	FREQUENCY
0	4
2	395
4	44
5	58
6	19

STEERING WHEEL SPOKES OCCUPANT CONTACT

VARIABLE NUMBER 51

SYMBOL	FREQUENCY
0	113
1	171
2	234
3	1
4	1

HORN RING DAMAGE

VARIABLE NUMBER 52

SYMBOL	FREQUENCY
0	4
1	111
2	403
3	2

HORN RING OCCUPANT CONTACT

VARIABLE NUMBER 53

SYMBOL	FREQUENCY
0	110
1	135
2	269
3	3

STEERING WHEEL ENERGY ABSORBING DEVICE

VARIABLE NUMBER 54

SYMBOL	FREQUENCY
0	7
1	34
2	317
3	1
BLANK	161

ENERGY ABSORBING DEVICE FINAL POSITION

VARIABLE NUMBER 55

SYMBOL	FREQUENCY
00	510
01	0
02	1
03	2
04	0
05	0
06	2
07	0
08	0
09	2
10	1
11	0
12	2

ENERGY ABSORBING DEVICE MAXIMUM COMPRESSION (CM)

VARIABLE NUMBER 56

SYMBOL	FREQUENCY
0-4	18
4-8	0
8-12	2

ENERGY ABSORBING DEVICE MIN. COMP. (CM)

VARIABLE NUMBER 57

SYMBOL	FREQUENCY
0-4	17
4-8	2
8-12	1

ENERGY ABSORBING DEVICE EXTENDED

VARIABLE NUMBER 58

SYMBOL	FREQUENCY
0	18
4	1
5	1
6	15
BLANK	485

STEERING WHEEL POSITION AT TIME OF COLLISION

VARIABLE NUMBER 59

SYMBOL	FREQUENCY
00	203
01	34
02	19
03	13
04	10
05	4
06	12
07	6
08	3
09	8
10	19
11	28
12	161

STEERING WHEEL PAD EQUIPPED

VARIABLE NUMBER 60

SYMBOL	FREQUENCY
0	4
1	165
2	351

STEERING WHEEL PAD DEFORMED

VARIABLE NUMBER 61

SYMBOL	FREQUENCY
0	4
1	24
2	146
3	344

TILT FEATURE EQUIPPED

VARIABLE NUMBER 62

SYMBOL	FREQUENCY
0	2
1	23
2	495

TILT FEATURE FINAL POSITION

VARIABLE NUMBER 63

SYMBOL	FREQUENCY
0	2
3	494
4	13
5	7
6	4

TELESCOPING FEATURE EQUIPPED

VARIABLE NUMBER 64

SYMBOL	FREQUENCY
0	2
1	20
2	498

TELESCOPING FEATURE FINAL POSITION

VARIABLE NUMBER 65

SYMBOL	FREQUENCY
0	5
3	497
4	13
6	5

SWING-AWAY FEATURE EQUIPPED

VARIABLE NUMBER 66

SYMBOL	FREQUENCY
0	2
1	4
2	513
BLANK	1

SWING-AWAY FEATURE FINAL POSITION

VARIABLE NUMBER 67

SYMBOL	FREQUENCY
0	3
3	514
4	1
5	1
BLANK	1

COLUMN MOVEMENT

VARIABLE NUMBER 68

SYMBOL	FREQUENCY
0-4	273
4-8	52
8-12	22
12-16	4
16-20	5
20-24	1
24-28	4
28-32	3
32-36	1
36-40	0
40-44	2

COLUMN DIRECTION OF MOTION

VARIABLE NUMBER 69

SYMBOL	FREQUENCY
0	153
3	1
4	58
5	142
6	150
BLANK	16

STEERING COLUMN ENERGY ABSORBING DEVICE TYPE

VARIABLE NUMBER 70

SYMBOL	FREQUENCY
0	31
1	76
2	60
4	4
5	50
6	9
7	1
8	256
9	30
BLANK	3

FINAL COLUMN POSITION

VARIABLE NUMBER 71

SYMBOL	FREQUENCY
0-4	118
4-8	5
8-12	4
12-16	3
16-20	5
20-24	2
24-28	3
28-32	0
32-36	0
36-40	3

SHEAR CAPSULE SEPARATION (CM)

VARIABLE NUMBER 72

SYMBOL	FREQUENCY
0	427
1	14
2	6
3	7
4	2
5	3
6	2
7	5
8	0
9+	3

COLUMN VERTICAL ROTATION (DEGREES)

VARIABLE NUMBER 73

SYMBOL	FREQUENCY
0	112
1-5	60
6-10	10
11-15	7
16-20	6
21-25	4
26-30	3
31-35	2
36-40	0
41-45+	1

GENERAL INFORMATION

VARIABLE NUMBER 74

SYMBOL	FREQUENCY
1	260
2	260

GENERAL INFORMATION

VARIABLE NUMBER 75

SYMBOL	FREQUENCY
0	1
1	96
2	423

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GENERAL INFORMATION — VARIABLE NUMBER 76

SYMBOL	FREQUENCY
0	19
1	95
2	411

GENERAL INFORMATION — VARIABLE NUMBER 77

SYMBOL	FREQUENCY
0	[illegible]
1	183
2	393

GENERAL INFORMATION — VARIABLE NUMBER 78

SYMBOL	FREQUENCY
0	10
1	163
2	335
3	6

GENERAL INFORMATION — VARIABLE NUMBER 79

SYMBOL	FREQUENCY
0	6
1	280
2	294

WINDSHIELD — VARIABLE NUMBER 80

SYMBOL	FREQUENCY
0	10
1	288
2	198
3	9

WINDSHIELD — VARIABLE NUMBER 81

SYMBOL	FREQUENCY
0	19
1	178
2	318
5	19

WINDSHIELD — VARIABLE NUMBER 82

SYMBOL	FREQUENCY
0	5
1	67
2	90
3	217
BLANK	161

WINDSHIELD — VARIABLE NUMBER 83

SYMBOL	FREQUENCY
0	113
1	167
2	249
3	3

WINDSHIELD — VARIABLE NUMBER 84

SYMBOL	FREQUENCY
0	111
1	103
2	190
3	176

WINDSHIELD — VARIABLE NUMBER 85

SYMBOL	FREQUENCY
0	6
1	180
2	229
3	15
BLANK	162

TYPE OF WINDSHIELD GLASS — VARIABLE NUMBER 86

SYMBOL	FREQUENCY
[illegible]	30
[illegible]	129
[illegible]	174
[illegible]	174
BLANK	9

INSTRUMENT PANEL UPPER PANEL DAMAGED — VARIABLE NUMBER 87

SYMBOL	FREQUENCY
0	2
1	187
2	341

UPPER PANEL OCCUPANT CONTACT — VARIABLE NUMBER 88

SYMBOL	FREQUENCY
0	90
1	126
2	301
3	3

INSTRUMENT PANEL MIDPANEL DAMAGED — VARIABLE NUMBER 89

SYMBOL	FREQUENCY
0	3
1	219
2	303

MIDPANEL OCCUPANT CONTACT — VARIABLE NUMBER 90

SYMBOL	FREQUENCY
0	70
1	157
2	292
3	5

INSTRUMENT PANEL LOWER PANEL DAMAGED — VARIABLE NUMBER 91

SYMBOL	FREQUENCY
[illegible]	4
[illegible]	232
[illegible]	299

INSTRUMENT PANEL LOWER PANEL OCCUPANT CONTACT — VARIABLE NUMBER 92

SYMBOL	FREQUENCY
0	77
1	230
2	217
3	3

INSTRUMENT PANEL ASHTRAY DAMAGED — VARIABLE NUMBER 93

SYMBOL	FREQUENCY
0	10
1	40
2	415
3	5

INSTRUMENT PANEL ASHTRAY OCCUPANT CONTACT — VARIABLE NUMBER 94

SYMBOL	FREQUENCY
0	38
1	37
2	393
3	7

INSTRUMENT PANEL CONTROL KNOBS AND LEVERS DAMAGED — VARIABLE NUMBER 95

SYMBOL	FREQUENCY
0	5
1	191
2	379

INSTRUMENT PANEL CONTROL KNOBS AND LEVERS OCCUPANT CONTACT — VARIABLE NUMBER 96

SYMBOL	FREQUENCY
[illegible]	40
1	90
[illegible]	[illegible]
[illegible]	3

INSTRUMENT PANEL GLOVE COMPARTMENT AREA DAMAGED — VARIABLE NUMBER 97

SYMBOL	FREQUENCY
0	0
1	190
2	300
3	4

INSTRUMENT PANEL GLOVE COMPARTMENT AREA OCCUPANT CONTACT — VARIABLE NUMBER 98

SYMBOL	FREQUENCY
0	61
1	187
2	189
3	3

INSTRUMENT PANEL INSTRUMENTS DAMAGED — VARIABLE NUMBER 99

SYMBOL	FREQUENCY
0	5
1	109
2	496

INSTRUMENT PANEL INSTRUMENTS OCCUPANT CONTACT — VARIABLE NUMBER 100

SYMBOL	FREQUENCY
0	84
1	35
2	396
3	3

INSTRUMENT PANEL PARKING BRAKE RELEASE OR BRACKET EQUIPPED — VARIABLE NUMBER 101

SYMBOL	FREQUENCY
[illegible]	2
[illegible]	461
[illegible]	6
BLANK	162

INSTRUMENT PANEL PARKING BRAKE RELEASE OR BRACKET DAMAGED — VARIABLE NUMBER 102

SYMBOL	FREQUENCY
0	0
1	60
2	444
3	6

INSTRUMENT PANEL PARKING BRAKE RELEASE OR BRACKET OCC. CONT. — VARIABLE NUMBER 103

SYMBOL	FREQUENCY
0	82
1	33
2	396
3	0

A/C OUTLETS OR UPPER VENTILATION OUTLETS EQUIPPED — VARIABLE NUMBER 104

SYMBOL	FREQUENCY
0	8
1	238
2	230

A/C OUTLETS OR UPPER VENTILATION OUTLETS DAMAGED — VARIABLE NUMBER 105

SYMBOL	FREQUENCY
0	3
1	63
2	219
3	240

A/C OUTLETS OR UPPER VENT. OUTLETS OCC. CONT. — VARIABLE NUMBER 106

SYMBOL	FREQUENCY
[illegible]	89
[illegible]	66
[illegible]	288
[illegible]	291

HEATER OR A/C DUCTS EQUIPPED — VARIABLE NUMBER 107

SYMBOL	FREQUENCY
0	0
1	478
2	48

HEATER OR A/C DUCTS DAMAGED — VARIABLE NUMBER 108

SYMBOL	FREQUENCY
0	9
1	45
2	379
3	98

HEATER OR A/C DUCTS OCC. CONT. — VARIABLE NUMBER 109

SYMBOL	FREQUENCY
0	29
1	90
2	361
3	46
BLANK	1

INSTRUMENT PANEL RADIO EQUIPPED — VARIABLE NUMBER 110

SYMBOL	FREQUENCY
0	6
1	322
2	191
BLANK	1

INSTRUMENT PANEL RADIO DAMAGED — VARIABLE NUMBER 111

SYMBOL	FREQUENCY
[illegible]	12
1	43
2	235
3	184

INSTRUMENT PANEL RADIO OCC. CONT. — VARIABLE NUMBER 112

SYMBOL	FREQUENCY
0	42
1	20
2	258
3	195

INSTRUMENT PANEL OTHER DAMAGED — VARIABLE NUMBER 113

SYMBOL	FREQUENCY
0	3
1	25
2	13
3	475
BLANK	0

INSTRUMENT PANEL OTHER OCC. CONT. — VARIABLE NUMBER 114

SYMBOL	FREQUENCY
0	6
1	19
2	16
3	475
BLANK	4

OTHER INTERIOR ITEMS FOOT CONTROLS DAMAGED — VARIABLE NUMBER 115

SYMBOL	FREQUENCY
0	6
1	132
2	389

OTHER INTERIOR ITEMS FOOT CONTROLS OCC. CONT. — VARIABLE NUMBER 116

SYMBOL	FREQUENCY
[illegible]	95
[illegible]	99
2	345
3	1

OTHER INTERIOR ITEMS IGNITION KEYS DAMAGED — VARIABLE NUMBER 117

SYMBOL	FREQUENCY
0	38
1	60
2	426
3	6

OTHER INTERIOR ITEMS IGNITION KEYS OCCUPANT CONTACT — VARIABLE NUMBER 118

SYMBOL	FREQUENCY
0	93
1	27
2	392
3	9

OTHER INTERIOR ITEMS REAR VIEW MIRROR DAMAGED — VARIABLE NUMBER 119

SYMBOL	FREQUENCY
0	7
1	150
2	351
3	3
BLANK	1

OTHER INTERIOR ITEMS REAR VIEW MIRROR OCCUPANT CONTACT — VARIABLE NUMBER 120

SYMBOL	FREQUENCY
0	99
1	109
2	307
3	5

OTHER INTERIOR ITEMS SUNVISOR AND FITTINGS DAMAGED

VARIABLE NUMBER 121

SYMBOL	FREQUENCY
0	4
1	125
2	388
3	3

OTHER INTERIOR ITEMS SUNVISOR AND FITTINGS OCCUPANT CONTACT

VARIABLE NUMBER 122

SYMBOL	FREQUENCY
0	108
1	80
2	327
3	5

OTHER INTERIOR ITEMS WINDSHIELD TOP MOLDING DAMAGED

VARIABLE NUMBER 123

SYMBOL	FREQUENCY
0	10
1	124
2	374
3	12

OTHER INTERIOR ITEMS WINDSHIELD TOP MOLDING OCC. CONT.

VARIABLE NUMBER 124

SYMBOL	FREQUENCY
0	100
1	90
2	300
3	30

OTHER INTERIOR ITEMS LEFT A-PILLAR DAMAGED

VARIABLE NUMBER 125

SYMBOL	FREQUENCY
0	4
1	90
2	265
BLANK	161

OTHER INTERIOR ITEMS LEFT A-PILLAR OCC. CONT.

VARIABLE NUMBER 126

SYMBOL	FREQUENCY
0	65
1	24
2	268
3	2
BLANK	161

OTHER INTERIOR ITEMS RIGHT A-PILLAR DAMAGED

VARIABLE NUMBER 127

SYMBOL	FREQUENCY
0	4
1	79
2	276
BLANK	161

OTHER INTERIOR ITEMS RT. A-PILLAR OCC. CONT.

VARIABLE NUMBER 128

SYMBOL	FREQUENCY
0	59
1	22
2	276
3	2
BLANK	161

OTHER INTERIOR ITEMS CONSOLE EQUIPPED

VARIABLE NUMBER 129

SYMBOL	FREQUENCY
0	1
1	160
2	359

OTHER INTERIOR ITEMS CONSOLE DAMAGED

VARIABLE NUMBER 130

SYMBOL	FREQUENCY
0	2
1	92
2	117
3	309

OTHER INTERIOR ITEMS CONSOLE OCC. CONT.

VARIABLE NUMBER 131

SYMBOL	FREQUENCY
0	38
1	18
2	115
3	349

OTHER INTERIOR ITEMS TRANSMISSION SELECTOR LEVER EQUIPPED

VARIABLE NUMBER 132

SYMBOL	FREQUENCY
0	2
1	182
2	335
3	1

OTHER INTERIOR ITEMS TRANSMISSION SELECTOR LEVER DAMAGED

VARIABLE NUMBER 133

SYMBOL	FREQUENCY
0	3
1	21
2	159
3	337

OTHER INTERIOR ITEMS TRANSMISSION SELECTOR LEVER OCC. CONT.

VARIABLE NUMBER 134

SYMBOL	FREQUENCY
0	25
1	14
2	145
3	336

OTHER INTERIOR ITEMS TRANSMISSION SELECTOR LEVER EQUIPPED

VARIABLE NUMBER 135

SYMBOL	FREQUENCY
0	2
1	338
2	180

TRANSMISSION SELECTOR ON CONSOLE OR FLOOR DAMAGED

VARIABLE NUMBER 136

SYMBOL	FREQUENCY
0	4
1	46
2	273
3	197

TRANSMISSION SELECTOR ON CONSOLA OR FLOOR OCCUPANT CONTACT

VARIABLE NUMBER 137

SYMBOL	FREQUENCY
0	67
1	33
2	231
3	189

TRANSMISSION SELECTOR LEVER ON INSTRUMENT PANEL EQUIPPED

VARIABLE NUMBER 138

SYMBOL	FREQUENCY
0	4
1	4
2	510
3	1
BLANK	1

TRANSMISSION SELECTOR LEVER ON INSTRUMENT PANEL DAMAGED

VARIABLE NUMBER 139

SYMBOL	FREQUENCY
0	2
1	3
2	4
3	510
BLANK	1

TRANSMISSION SELECTOR LEVER ON INSTRUMENT PANEL OCC. CONT.

VARIABLE NUMBER 140

SYMBOL	FREQUENCY
0	3
1	2
2	3
3	511
BLANK	1

SEATS TYPE OF FRONT SEAT

VARIABLE NUMBER 141

SYMBOL	FREQUENCY
[illegible]	1
[illegible]	72
[illegible]	11
[illegible]	12
[illegible]	63
[illegible]	2
[illegible]	359

SEATS FOLDING BACKS

VARIABLE NUMBER 142

SYMBOL	FREQUENCY
0	1
1	354
2	165

SEATS DELUXE ACCESSORIES

VARIABLE NUMBER 143

SYMBOL	FREQUENCY
0	11
1	68
2	440
BLANK	1

TYPE OF SEAT ADJUSTERS

VARIABLE NUMBER 144

SYMBOL	FREQUENCY
0	2
2	1
4	348
5	7
6	1
BLANK	161

TYPE OF SEAT ADJUSTMENT

VARIABLE NUMBER 145

SYMBOL	FREQUENCY
0	16
2	3
3	3
4	276
5	18
6	26
7	17
BLANK	161

SEATS DAMAGE TO ADJUSTERS

VARIABLE NUMBER 146

SYMBOL	FREQUENCY
0	14
1	125
2	379
3	1
7	1

TYPE OF DAMAGE TO SEAT ADJUSTERS

VARIABLE NUMBER 147

SYMBOL	FREQUENCY
0	234
3	112
4	18
5	52
6	35

LOCATION OF SEAT SEPARATION

VARIABLE NUMBER 148

SYMBOL	FREQUENCY
0	21
1	1
2	4
3	421
4	23
5	43
6	7

POSITION OF ADJUSTABLE SEAT

VARIABLE NUMBER 149

SYMBOL	FREQUENCY
0	133
1	1
3	3
4	85
5	200
6	98

RIGHT FRONT PASSENGER'S SEAT

VARIABLE NUMBER 150

SYMBOL	FREQUENCY
0	133
1	2
2	2
3	5
4	80
5	215
6	83

DAMAGE TO FRONT SEAT

VARIABLE NUMBER 151

SYMBOL	FREQUENCY
0	4
1	167
2	348
3	1

CUSHION DAMAGE

VARIABLE NUMBER 152

SYMBOL	FREQUENCY
0	4
1	77
2	436
3	3

CONTACTED BY REAR OCCUPANT

VARIABLE NUMBER 153

SYMBOL	FREQUENCY
0	12
1	59
2	74
3	375

SEAT CENTER ARMRESTS EQUIPPED

VARIABLE NUMBER 154

SYMBOL	FREQUENCY
0	2
1	69
2	445
3	4

SEAT CENTER ARMRESTS DAMAGED

VARIABLE NUMBER 155

SYMBOL	FREQUENCY
0	3
1	15
2	67
3	435

HEAD RESTRAINTS FRONT EQUIPPED

VARIABLE NUMBER 156

SYMBOL	FREQUENCY
1	212
2	306
3	2

HEAD RESTRAINTS REMOVED PRIOR TO COLLISION

VARIABLE NUMBER 157

SYMBOL	FREQUENCY
0	1
1	6
2	129
3	223
BLANK	161

HEAD RESTRAINTS RETAINED DURING COLLISION

VARIABLE NUMBER 158

SYMBOL	FREQUENCY
1	119
2	5
3	235
BLANK	161

HEAD RESTRAINTS DAMAGED

VARIABLE NUMBER 159

SYMBOL	FREQUENCY
0	1
1	11
2	200
3	308

HEAD RESTRAINTS OCCUPANT CONTACT

VARIABLE NUMBER 160

SYMBOL	FREQUENCY
0	60
1	33
2	109
3	318

HEAD RESTRAINT TYPE

VARIABLE NUMBER 161

SYMBOL	FREQUENCY
0	1
3	216
4	95
5	177
BLANK	161

ADJUSTMENT AT TIME OF COLLISION

VARIABLE NUMBER 162

SYMBOL	FREQUENCY
0	3
2	1
3	253
4	31
5	71
BLANK	161

FRONT SEAT BACK LOCKS EQUIPPED

VARIABLE NUMBER 163

SYMBOL	FREQUENCY
0	6
1	289
2	174
3	50
7	1

FRONT SEAT BACK LOCKS HELD

VARIABLE NUMBER 164

SYMBOL	FREQUENCY
0	10
1	250
2	88
3	223
7	1

FRONT SEAT BACK LOCKS RIGHT EQUIPPED

VARIABLE NUMBER 165

SYMBOL	FREQUENCY
0	6
1	289
2	173
3	51
7	1

FRONT SEAT BACK LOCKS RIGHT HELD

VARIABLE NUMBER 166

SYMBOL	FREQUENCY
0	4
1	269
2	27
3	223
7	1
BLANK	1

SEAT BACK ROTATION LT. SEAT ANGLE DIFF.

VARIABLE NUMBER 167

SYMBOL	FREQUENCY
0-5	110
5-10	3
11-15	4
16-20	3
21-25	5
26-30	2
31-35	3
36-40	0
41-45	0
46+	1

SEAT BACK ROTATION RT. SEAT ANGLE DIFF.

VARIABLE NUMBER 168

SYMBOL	FREQUENCY
0-5	124
6-10	7
11-15	1
16-20	5
21-25	1
26-30	1
31-35	3
35+	0

TYPE OF REAR SEAT

VARIABLE NUMBER 169

SYMBOL	FREQUENCY
0	1
2	83
4	214
5	64
BLANK	163

DAMAGE TO REAR SEAT

VARIABLE NUMBER 170

SYMBOL	FREQUENCY
0	9
1	90
2	385
3	33

DAMAGE TO REAR SEAT CUSHION DAMAGED OR LOOSENED

VARIABLE NUMBER 171

SYMBOL	FREQUENCY
0	4
1	132
2	341
3	32

DAMAGE TO REAR SEAT SEAT ARMRESTS EQUIPPED

VARIABLE NUMBER 172

SYMBOL	FREQUENCY
0	7
1	130
2	343
3	32

DAMAGE TO REAR SEAT SEAT ARMRESTS DAMAGED

VARIABLE NUMBER 173

SYMBOL	FREQUENCY
0	8
1	17
2	145
3	357

DAMAGE TO REAR SEAT REAR SEAT BACK LOCKS EQUIPPED

VARIABLE NUMBER 174

SYMBOL	FREQUENCY
0	3
1	66
2	73
3	395

DAMAGE TO REAR SEAT REAR SEAT BACK LOCKS LEFT HELD

VARIABLE NUMBER 175

SYMBOL	FREQUENCY
0	4
1	33
2	19
3	469

DAMAGE TO REAR SEAT REAR SEAT BACK LOCKS RIGHT EQUIPPED

VARIABLE NUMBER 176

SYMBOL	FREQUENCY
0	7
1	54
2	44
3	470

DAMAGE TO REAR SEAT REAR SEAT BACK LOCKS RIGHT HELD

VARIABLE NUMBER 177

SYMBOL	FREQUENCY
0	5
1	29
2	19
3	466

DAMAGE TO REAR SEAT THIRD SEAT EQUIPPED

VARIABLE NUMBER 178

SYMBOL	FREQUENCY
1	4
2	513
3	1

DAMAGE TO REAR SEAT THIRD SEAT BACKREST DAMAGED

VARIABLE NUMBER 179

SYMBOL	FREQUENCY
2	6
3	513
5	1

DAMAGE TO REAR SEAT THIRD SEAT CUSHION DAMAGED

VARIABLE NUMBER 180

SYMBOL	FREQUENCY
1	1
2	6
3	513

BACKLIGHT DAMAGED

VARIABLE NUMBER 181

SYMBOL	FREQUENCY
0	1
1	76
2	474
3	9

BACKLIGHT POPPED OUT

VARIABLE NUMBER 182

SYMBOL	FREQUENCY
0	6
1	21
2	114
3	218
BLANK	161

BACKLIGHT OCCUPANT CONTACT

VARIABLE NUMBER 183

SYMBOL	FREQUENCY
0	17
1	7
2	474
3	22

BACKLIGHT HEADER DAMAGED

VARIABLE NUMBER 184

SYMBOL	FREQUENCY
0	2
1	45
2	302
3	10
BLANK	161

BACKLIGHT HEADER OCCUPANT CONTACT

VARIABLE NUMBER 185

SYMBOL	FREQUENCY
0	14
1	1
2	318
3	26
BLANK	161

WINDOWS CLOSED LT FRONT BETWEEN LT A & B PILLARS

VARIABLE NUMBER 186

SYMBOL	FREQUENCY
0	47
1	411
2	41
BLANK	[illegible]

WINDOWS CLOSED LT REAR BETWEEN LT B & C PILLARS

VARIABLE NUMBER 187

SYMBOL	FREQUENCY
0	51
1	251
2	13
3	44
BLANK	161

WINDOWS CLOSED RT FRONT BETWEEN RT A & B PILLARS

VARIABLE NUMBER 188

SYMBOL	FREQUENCY
0	73
1	248
2	37
3	1
BLANK	161

WINDOWS CLOSED RT REAR BETWEEN RT B & C PILLARS

VARIABLE NUMBER 189

SYMBOL	FREQUENCY
0	46
1	257
2	11
3	45
BLANK	161

WINDOWS CLOSED BACKLIGHT

VARIABLE NUMBER 190

SYMBOL	FREQUENCY
0	3
1	81
2	5
3	264
BLANK	167

WINDOWS CLOSED ALL SIDE WINDOWS OPERABLE AFTER COLLISION

VARIABLE NUMBER 191

SYMBOL	FREQUENCY
0	[illegible]
1	164
2	167
BLANK	161

WINDOWS CLOSED POWER SIDE WINDOWS EQUIPPED

VARIABLE NUMBER 192

SYMBOL	FREQUENCY
0	6
1	17
2	336
BLANK	161

LEFT SIDE INTERIOR DOOR DAMAGED

VARIABLE NUMBER 193

SYMBOL	FREQUENCY
0	3
1	121
2	235
BLANK	161

LEFT SIDE INTERIOR DOOR OCCUPANT CONTACT

VARIABLE NUMBER 194

SYMBOL	FREQUENCY
0	53
1	83
2	222
3	1
BLANK	161

LEFT SIDE INTERIOR HARDWARE DAMAGED

VARIABLE NUMBER 195

SYMBOL	FREQUENCY
0	4
1	68
2	287
BLANK	161

LEFT SIDE INTERIOR HARDWARE OCCUPANT CONTACT

VARIABLE NUMBER 196

SYMBOL	FREQUENCY
0	53
1	42
2	263
3	1
BLANK	161

LEFT SIDE INTERIOR ARMREST DAMAGED

VARIABLE NUMBER 197

SYMBOL	FREQUENCY
0	5
1	44
2	293
3	17
BLANK	161

LEFT SIDE INTERIOR ARMREST OCCUPANT CONTACT

VARIABLE NUMBER 198

SYMBOL	FREQUENCY
0	49
1	47
2	252
3	10
BLANK	161

LEFT SIDE INTERIOR GLASS BETWEEN LT. A & B PILLARS DAMAGED

VARIABLE NUMBER 199

SYMBOL	FREQUENCY
0	4
1	187
2	329

LEFT SIDE INTERIOR GLASS BETWEEN LT. A & B PILLARS OCCUPANT CONTACT

VARIABLE NUMBER 200

SYMBOL	FREQUENCY
0	119
1	22
2	371
3	8

LEFT SIDE INTERIOR DOOR DAMAGED

VARIABLE NUMBER 201

SYMBOL	FREQUENCY
0	17
1	34
2	254
3	54
BLANK	161

LEFT SIDE INTERIOR DOOR OCCUPANT CONTACT

VARIABLE NUMBER 202

SYMBOL	FREQUENCY
0	23
1	3
2	279
3	51
BLANK	161

LEFT SIDE INTERIOR HARDWARE DAMAGED

VARIABLE NUMBER 203

SYMBOL	FREQUENCY
0	7
1	31
2	248
3	73
BLANK	161

LEFT SIDE INTERIOR HARDWARE OCCUPANT CONTACT

VARIABLE NUMBER 204

SYMBOL	FREQUENCY
0	10
1	9
2	263
3	76
BLANK	161

LEFT SIDE INTERIOR ARMREST DAMAGED

VARIABLE NUMBER 205

SYMBOL	FREQUENCY
0	3
1	17
2	293
3	46
BLANK	161

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LEFT SIDE INTERIOR ARMREST OCCUPANT CONTACT

LEFT SIDE INTERIOR GLASS BETWEEN LEFT B & C PILLARS DAMAGED

LEFT SIDE INTERIOR GLASS BETWEEN LEFT B & C PILLARS OCCUPANT DAMAGE

LEFT SIDE INTERIOR GLASS BETWEEN LT C & D PILLARS DAMAGED

LEFT SIDE INTERIOR GLASS BETWEEN LT C & D PILLARS OCCUPANT CONTACT

```
* VARIABLE NUMBER 206 ** VARIABLE NUMBER 207 ** VARIABLE NUMBER 208 ** VARIABLE NUMBER 209 ** VARIABLE NUMBER 210 *
*******************************************************************************************************************
* SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   *

*   0           15    **   0            6    **   0           44    **   2           30    **   2           35    *
*   1            3    **   1           59    **   1            2    **   3          329    **   3          324    *
*   2          247    **   2          421    **   2          430    **   BLANK      161    **   BLANK      161    *
*   3           94    **   3           34    **   3           44    **                     **                     *
*   BLANK      161    **                     **                     **                     **                     *
```

LEFT SIDE INTERIOR ROOF SIDE RAIL DAMAGED

LEFT SIDE INTERIOR ROOF SIDE RAIL OCCUPANT CONTACT

LEFT SIDE INTERIOR B-PILLAR DAMAGED

LEFT SIDE INTERIOR B-PILLAR OCCUPANT CONTACT

LEFT SIDE INTERIOR C-PILLAR DAMAGED

```
* VARIABLE NUMBER 211 ** VARIABLE NUMBER 212 ** VARIABLE NUMBER 213 ** VARIABLE NUMBER 214 ** VARIABLE NUMBER 215 *
*******************************************************************************************************************
* SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   *

*   0            5    **   0           45    **   0            8    **   0           40    **   0            6    *
*   1           48    **   1            8    **   1           59    **   1            5    **   1           42    *
*   2          301    **   2          305    **   2          286    **   2          307    **   2          287    *
*   3            5    **   3            1    **   3            6    **   3            7    **   3           24    *
*   BLANK      161    **   BLANK      161    **   BLANK      161    **   BLANK      161    **   BLANK      161    *
```

LEFT SIDE INTERIOR C-PILLAR OCCUPANT CONTACT

LEFT SIDE INTERIOR D-PILLAR DAMAGED

LEFT SIDE INTERIOR D-PILLAR OCCUPANT CONTACT

LEFT SIDE INTERIOR OTHER DAMAGED

LEFT SIDE INTERIOR OTHER OCCUPANT CONTACT

```
* VARIABLE NUMBER 216 ** VARIABLE NUMBER 217 ** VARIABLE NUMBER 218 ** VARIABLE NUMBER 219 ** VARIABLE NUMBER 220 *
*******************************************************************************************************************
* SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   *

*   1           21    **   1            3    **   2           33    **   0            1    **   2            6    *
*   2          313    **   2           29    **   3          326    **   1            2    **   3          352    *
*   3           25    **   3          327    **   BLANK      161    **   2            5    **   BLANK      162    *
*   BLANK      161    **   BLANK      161    **                     **   3          350    **                     *
*                     **                     **                     **   BLANK      162    **                     *
```

RIGHT SIDE INTERIOR DOOR DAMAGED

RIGHT SIDE INTERIOR DOOR OCCUPANT CONTACT

RIGHT SIDE INTERIOR HARDWARE DAMAGED

RIGHT SIDE INTERIOR HARDWARE OCCUPANT CONTACT

RIGHT SIDE INTERIOR ARMREST DAMAGED

```
* VARIABLE NUMBER 221 ** VARIABLE NUMBER 222 ** VARIABLE NUMBER 223 ** VARIABLE NUMBER 224 ** VARIABLE NUMBER 225 *
*******************************************************************************************************************
* SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   *

*   0            2    **   0           44    **   0            3    **   0           49    **   0            5    *
*   1           95    **   1           59    **   1           55    **   1           27    **   1           36    *
*   2          262    **   2          253    **   2          301    **   2          280    **   2          306    *
*   BLANK      161    **   3            3    **   BLANK      161    **   3            3    **   3           12    *
*                     **   BLANK      161    **                     **   BLANK      161    **   BLANK      161    *
```

RIGHT SIDE INTERIOR ARMREST OCCUPANT CONTACT

RIGHT SIDE INTERIOR GLASS BETWEEN RIGHT A AND B PILLARS DAMAGED

RIGHT SIDE INTERIOR GLASS BETWEEN RIGHT A AND B PILLARS OCCUPANT CONTACT

RIGHT SIDE INTERIOR DOOR DAMAGED

RIGHT SIDE INTERIOR DOOR OCCUPANT CONTACT

```
* VARIABLE NUMBER 226 ** VARIABLE NUMBER 227 ** VARIABLE NUMBER 228 ** VARIABLE NUMBER 229 ** VARIABLE NUMBER 230 *
*******************************************************************************************************************
* SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   *

*   0           44    **   0            4    **   0          106    **   0           13    **   0           20    *
*   1           29    **   1          130    **   1           27    **   1           32    **   1            9    *
*   2          244    **   2          386    **   2          382    **   2          257    **   2          267    *
*   3           14    **                     **   3            5    **   3           57    **   3           59    *
*   BLANK      189    **                     **                     **   BLANK      161    **   BLANK      161    *
```

RIGHT SIDE INTERIOR HARDWARE DAMAGED

RIGHT SIDE INTERIOR HARDWARE OCCUPANT CONTACT

RIGHT SIDE INTERIOR ARMREST DAMAGED

RIGHT SIDE INTERIOR ARMREST OCCUPANT CONTACT

RIGHT SIDE INTERIOR GLASS BETWEEN RIGHT B AND C PILLARS DAMAGED

```
* VARIABLE NUMBER 231 ** VARIABLE NUMBER 232 ** VARIABLE NUMBER 233 ** VARIABLE NUMBER 234 ** VARIABLE NUMBER 235 *
*******************************************************************************************************************
* SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   *

*   0            2    **   0           17    **   0            7    **   0           16    **   0            6    *
*   1           21    **   1            3    **   1           12    **   1            5    **   1           67    *
*   2          265    **   2          263    **   2          296    **   2          242    **   2          417    *
*   3           71    **   3           76    **   3           43    **   3           95    **   3           30    *
*   BLANK      161    **   BLANK      161    **   BLANK      162    **   BLANK      162    **                     *
```

RIGHT SIDE INTERIOR GLASS BETWEEN RIGHT B AND C PILLARS OCCUPANT CONTACT

RIGHT SIDE INTERIOR GLASS BETWEEN RIGHT C AND D PILLARS DAMAGED

RIGHT SIDE INTERIOR GLASS BETWEEN RT. C AND D PILLARS OCCUPANT CONTACT

RIGHT SIDE INTERIOR ROOF SIDE RAIL DAMAGED

RIGHT SIDE INTERIOR ROOF SIDE RAIL OCCUPANT CONTACT

```
* VARIABLE NUMBER 236 ** VARIABLE NUMBER 237 ** VARIABLE NUMBER 238 ** VARIABLE NUMBER 239 ** VARIABLE NUMBER 240 *
*******************************************************************************************************************
* SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   *

*   0           44    **   1            4    **   1            2    **   0            5    **   0           50    *
*   1            2    **   2           38    **   2           39    **   1           68    **   1            7    *
*   2          429    **   3          317    **   3          318    **   2          282    **   2          297    *
*   3           45    **   BLANK      161    **   BLANK      161    **   3            4    **   3            5    *
*                     **                     **                     **   BLANK      161    **   BLANK      161    *
```

RIGHT SIDE INTERIOR B-PILLAR DAMAGED

RIGHT SIDE INTERIOR B-PILLAR OCCUPANT CONTACT

RIGHT SIDE INTERIOR C-PILLAR DAMAGED

RIGHT SIDE INTERIOR C-PILLAR OCCUPANT CONTACT

RIGHT SIDE INTERIOR D-PILLAR DAMAGED

```
* VARIABLE NUMBER 241 ** VARIABLE NUMBER 242 ** VARIABLE NUMBER 243 ** VARIABLE NUMBER 244 ** VARIABLE NUMBER 245 *
*******************************************************************************************************************
* SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   ** SYMBOL  FREQUENCY   *

*   0            8    **   0           49    **   0            4    **   0           10    **   1            3    *
*   1           18    **   1            6    **   1           37    **   1            1    **   2           30    *
*   2          265    **   2          293    **   2          295    **   2          318    **   3          326    *
*   3     [illegible] **   3           10    **   3           23    **   3           29    **   BLANK      161    *
*   BLANK      161    **   BLANK      162    **   BLANK      161    **   BLANK      162    **                     *
```

```
RIGHT SIDE INTERIOR D-PILLAR   RIGHT SIDE INTERIOR          RIGHT SIDE INTERIOR          RIGHT SIDE INTERIOR     RIGHT SIDE INTERIOR HEADLINING
    OCCUPANT CONTACT             OTHER DAMAGED          OTHER OCCUPANT CONTACT        HEADLINING DAMAGED           OCCUPANT CONTACT
*  VARIABLE NUMBER  296  **  VARIABLE NUMBER  297  **  VARIABLE NUMBER  298  **  VARIABLE NUMBER  299  **  VARIABLE NUMBER  300  *
*****************************************************************************************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *

*     2         39       **     0          1       **     1          2       **     0          5       **     0         60      *
*     3        329       **     1          3       **     2          7       **     1         89       **     1         31      *
*   BLANK      161       **     2          6       **     3        360       **     2        265       **     2        272      *
*                        **     3        359       **   BLANK      161       **     3          6       **     3          6      *
*                        **   BLANK      161       **                        **   BLANK      161       **   BLANK      161      *

    RIGHT SIDE INTERIOR        RIGHT SIDE INTERIOR
 ROOF STRUCTURE DAMAGED          ROOF STRUCTURE
                                OCCUPANT CONTACT
*  VARIABLE NUMBER  251  **  VARIABLE NUMBER  252  *
****************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *

*     0          5       **     0         60       *
*     1         42       **     1         22       *
*     2        261       **     2        205       *
*     3          1       **     3          2       *
*   BLANK      161       **   BLANK      161       *

      END OF OUTPUT FOR PROBLEM CODE C.B-17



FINISH CARD ENCOUNTERED, PROGRAM TERMINATED

UNASSIGNED MEDIUM,  FILE     TAPE5
ERROR NUMBER  0046 DETECTED BY NEWINP  AT ADDRESS 005546
CALLED FROM BMDO4D  AT 01015

ERROR SUMMARY
     ERROR       TIMES
      0046        [illegible]
```

```
BMD04D - ALPHANUMERIC FREQUENCY COUNT - VERSION OF  MAY  22, 1964
HEALTH SCIENCES COMPUTING FACILITY, UCLA
PROBLEM CODE C.B-[illegible]
NUMBER OF CONTINUATION CARDS    NIL


   OCCUPANT NUMBER              SEAT LOCATION              POSITION ON SEAT                 POSTURE               POSITION INSIDE VEHICLE
*  VARIABLE NUMBER    1  **  VARIABLE NUMBER    2  **  VARIABLE NUMBER    3  **  VARIABLE NUMBER    4  **  VARIABLE NUMBER    5  *
*****************************************************************************************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *

*     0          1       **     0          6       **     0          4       **     0         17       **     0        190      *
*     1        483       **     1          2       **     4        538       **     1        871       **     1          1      *
*     2         26       **     4        761       **     5          3       **     2          5       **     3         35      *
*     3        250       **     5        146       **     6         36       **     3          1       **     4        334      *
*     4         55       **   BLANK        1       **     7          5       **     4          3       **     5         13      *
*     5         16       **                        **     8        327       **     5          0       **     6         44      *
*     6         68       **                        **   BLANK        2       **     6          4       **     7          6      *
*     7         13       **                        **                        **     7          9       **   BLANK      295      *
*     8          3       **                        **                        **     8          1       **                       *
*     9          1       **                        **                        **     9          0       **                       *
                                                                                   10          2
                                                                                   11          3

     AGE (YEARS)               AGE (MONTHS)                  WEIGHT                       HEIGHT
                                                    (KG.-INCLUDES 0 UNKNOWN)    (CM-INCLUDES 0 UNKNOWN)              SEX
*  VARIABLE NUMBER    6  **  VARIABLE NUMBER    7  **  VARIABLE NUMBER    8  **  VARIABLE NUMBER    9  **  VARIABLE NUMBER   10  *
*****************************************************************************************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *

*    0-9        36       **    0-2         0       **    0-15      327       **    0-20      301       **     0         15      *
*   10-19      119       **    3-4         0       **   15-30       15       **   20-40        0       **     1          1      *
*   20-29      303       **    5-6         0       **   30-45       22       **   40-60        1       **     2          1      *
*   30-39      161       **    7-8         1       **   45-60      137       **   60-80        9       **     4        573      *
*   40-49       93       **    9-10        1       **   60-75      207       **   80-100       9       **     5        324      *
*   50-59       74       **   11-12        1       **   75-90      162       **  100-120      10       **     7          1      *
*   60-69       43       **   13-14        2       **   90-105      32       **  120-140      10       **   BLANK        1      *
*   70-79       23       **   15-16        0       **  105-120       7       **  140-160      63       **                       *
*   80-89        3       **   17-18        6       **  120-135       1       **  160-180     395       **                       *
*                        **                        **                        **  180-200     114       **                       *
*                        **                        **                        **  200-220       2       **                       *

  LAP BELT EQUIPPED               LAP BELT                    LAP BELT                    LAP BELT           UPPER TORSO RESTRAINT
  FOR THIS POSITION          WORN BY OCCUPANT               WORN SNUGGLY             LOCKING RETRACTOR     EQUIPPED FOR THIS POSITION
*  VARIABLE NUMBER   11  **  VARIABLE NUMBER   12  **  VARIABLE NUMBER   13  **  VARIABLE NUMBER   14  **  VARIABLE NUMBER   15  *
*****************************************************************************************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *

* [illegible]   14       **     0         23       **     0         56       **     0         39       **     0         13      *
*     1     [illegible]  **     1        129       **     1         76       **     1         36       **     1        440      *
* [illegible]   [illegible] **  2        426       **     2         22       **     2        299       **     2        461      *
* [illegible]    1       **     3        337       **     3        761       **     3        263       **     3          1      *
*   BLANK        1       **   BLANK        1       **   BLANK        1       **   BLANK      289       **   BLANK        1      *
```

UPPER TORSO RESTRAINT WORN BY OCCUPANT

VARIABLE NUMBER 16

SYMBOL	FREQUENCY
[illegible]	18
1	[illegible]
2	[illegible]
3	[illegible]
BLANK	1

UPPER TORSO RESTRAINT WORN CORRECTLY

VARIABLE NUMBER 17

SYMBOL	FREQUENCY
0	36
1	43
2	17
3	619
BLANK	1

UPPER TORSO RESTRAINT INERTIA REEL

VARIABLE NUMBER 18

SYMBOL	FREQUENCY
0	22
1	10
2	292
3	306
BLANK	286

PASSIVE RESTRAINT BELT EQUIPPED FOR THIS POSITION

VARIABLE NUMBER 19

SYMBOL	FREQUENCY
0	19
1	4
2	609
3	3
BLANK	286

PASSIVE RESTRAINT BELT WORN BY OCCUPANT

VARIABLE NUMBER 20

SYMBOL	FREQUENCY
0	10
1	2
2	0
3	618
BLANK	286

PASSIVE RESTRAINT BELT WORN CORRECTLY

VARIABLE NUMBER 21

SYMBOL	FREQUENCY
[illegible]	10
[illegible]	2
[illegible]	1
3	617
BLANK	286

RESTRAINT SEPARATION BUCKLE

VARIABLE NUMBER 22

SYMBOL	FREQUENCY
0	7
1	1
2	153
3	469
BLANK	286

RESTRAINT SEPARATION WEBBING

VARIABLE NUMBER 23

SYMBOL	FREQUENCY
0	7
1	4
2	147
3	472
BLANK	286

RESTRAINT SEPARATION ANCHORAGE HARDWARE

VARIABLE NUMBER 24

SYMBOL	FREQUENCY
0	7
1	1
2	103
3	519
BLANK	286

NUMBER OF STRANDS SEPARATED

VARIABLE NUMBER 25

SYMBOL	FREQUENCY
0	322
3	2
33	1
99	591

TYPE OF SYSTEM USED

VARIABLE NUMBER 26

SYMBOL	FREQUENCY
[illegible]	13
[illegible]	[illegible]
[illegible]	42
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

DEGREE OF EJECTION

VARIABLE NUMBER 27

SYMBOL	FREQUENCY
0	15
2	[illegible]
3	4
4	16
5	38
6	1
BLANK	2

AREA OF EJECTION

VARIABLE NUMBER 28

SYMBOL	FREQUENCY
0	16
1	7
2	4
3	842
4	2
5	16
6	19
8	11
9	1
BLANK	2

FIRST AID

VARIABLE NUMBER 29

SYMBOL	FREQUENCY
0	190
2	19
3	200
4	151
5	0
6	12
BLANK	286

FIRST AID TREATMENT AT SCENE (BY WHOM)

VARIABLE NUMBER 30

SYMBOL	FREQUENCY
0	189
1	19
2	0
3	262
4	68
5	24
6	58
BLANK	286

TYPE OF EMERGENCY VEHICLE USED

VARIABLE NUMBER 31

SYMBOL	FREQUENCY
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

TRAINING OF AMBULANCE ATTENDANTS

VARIABLE NUMBER 32

SYMBOL	FREQUENCY
0	491
2	4
3	[illegible]
4	[illegible]
5	5
6	17
BLANK	286

TRAINING OF AMBULANCE ATTENDANTS

VARIABLE NUMBER 33

SYMBOL	FREQUENCY
0	[illegible]
2	1
3	146
4	[illegible]
5	3
6	[illegible]
7	3
BLANK	[illegible]

EXTRICATION OF OCCUPANTS REQUIRED

VARIABLE NUMBER 34

SYMBOL	FREQUENCY
0	20
1	67
2	527
3	88
4	2
BLANK	286

EXTRICATION EQUIPMENT USED

VARIABLE NUMBER 35

SYMBOL	FREQUENCY
0	27
1	5
2	557
4	25
6	12
7	5
BLANK	286

EXTRICATION EQUIPMENT USED

VARIABLE NUMBER 36

SYMBOL	FREQUENCY
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

EXTRICATION EQUIPMENT USED

VARIABLE NUMBER 37

SYMBOL	FREQUENCY
0	96
2	527
5	3
7	2
BLANK	292

TIME REQUIRED FOR EXTRICATION

VARIABLE NUMBER 38

SYMBOL	FREQUENCY
0	19
1	31
2	19
3	554
5	4
BLANK	295

FIRE CONTROL EQUIPMENT USED

VARIABLE NUMBER 39

SYMBOL	FREQUENCY
0	8
1	19
2	79
3	521
BLANK	295

SUBMERSION EQUIPMENT USED

VARIABLE NUMBER 40

SYMBOL	FREQUENCY
0	6
2	30
3	581
BLANK	295

FIRE PROTECTION EQUIPMENT USED

VARIABLE NUMBER 41

SYMBOL	FREQUENCY
[illegible]	[illegible]
[illegible]	7
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

STATUS OF TRAUMATIC INJURIES

VARIABLE NUMBER 42

SYMBOL	FREQUENCY
0	469
1	50
2	183
3	28
4	144
5	23
6	3
7	6
8	3
30	1
55	2
99	18

STATUS OF NON TRAUMATIC MEDICAL CONDITION

VARIABLE NUMBER 43

SYMBOL	FREQUENCY
0	551
1	4
2	4
3	68
4	1
BLANK	291

OVERALL SEVERITY OF INJURIES

VARIABLE NUMBER 44

SYMBOL	FREQUENCY
0	161
1	207
2	196
3	100
4	92
5	88
6	16
7	14
8	17
9	10
10	5
32	1
98	7
99	17

AUTOPSY

VARIABLE NUMBER 45

SYMBOL	FREQUENCY
0	5
1	30
2	15
3	575
BLANK	291

CHILD RESTRAINT SYSTEM

VARIABLE NUMBER 46

SYMBOL	FREQUENCY
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
BLANK	[illegible]

DRIVER OR OCCUPANT DISTINCTION

VARIABLE NUMBER 47

SYMBOL	FREQUENCY
1	519
BLANK	397

SCALP AND VAULT OF SKULL

VARIABLE NUMBER 48

SYMBOL	FREQUENCY
0	727
1	96
2	6
3	62
4	8
5	1
6	13
7	3

CONTACT AREAS

VARIABLE NUMBER 49

SYMBOL	FREQUENCY
0	3650
2	1
5	6
6	16
9	7
10	19
12	51

CONTACT AREAS

VARIABLE NUMBER 50

SYMBOL	FREQUENCY
14	15
15	4
16	2
20	9
21	6
22	13

CONTACT AREAS
VARIABLE NUMBER 51

SYMBOL	FREQUENCY
23	3
25	12
26	5
27	3
29	9
30	2
31	3

CONTACT AREAS
VARIABLE NUMBER 52

SYMBOL	FREQUENCY
32	5
35	1
36	8
37	2
38	5
39	1

OVERALL INJURY TO REGION
VARIABLE NUMBER 53

SYMBOL	FREQUENCY
1	127
2	30
3	5
4	4
5	4
6	10
9	2
BLANK	727

CONCUSSION SEVERITY
VARIABLE NUMBER 54

SYMBOL	FREQUENCY
1	3
2	6
3	1
4	1
BLANK	905

LACERATION SEVERITY
VARIABLE NUMBER 55

SYMBOL	FREQUENCY
1	66
2	19
3	2
4	1
6	2
9	1
BLANK	825

ABRASION SEVERITY
VARIABLE NUMBER 56

SYMBOL	FREQUENCY
[illegible]	19
[illegible]	5
[illegible]	2
BLANK	891

BRUISE SEVERITY
VARIABLE NUMBER 57

SYMBOL	FREQUENCY
1	40
2	7
3	1
4	1
BLANK	867

SPRAIN/STRAIN SEVERITY
VARIABLE NUMBER 58

SYMBOL	FREQUENCY
BLANK	916

FRACTURE SEVERITY
VARIABLE NUMBER 59

SYMBOL	FREQUENCY
2	3
3	2
4	5
5	6
6	8
BLANK	892

DISLOCATION SEVERITY
VARIABLE NUMBER 60

SYMBOL	FREQUENCY
BLANK	916

AVULSION SEVERITY
VARIABLE NUMBER 61

SYMBOL	FREQUENCY
BLANK	916

HEMORRHAGE SEVERITY
VARIABLE NUMBER 62

SYMBOL	FREQUENCY
1	2
2	5
3	1
BLANK	908

BURN SEVERITY
VARIABLE NUMBER 63

SYMBOL	FREQUENCY
1	1
4	1
BLANK	914

COMPLAINTS OF PAIN SEVERITY
VARIABLE NUMBER 64

SYMBOL	FREQUENCY
1	12
BLANK	904

OTHER SEVERITY
VARIABLE NUMBER 65

SYMBOL	FREQUENCY
1	9
2	1
4	2
5	1
9	2
BLANK	901

BRAIN AND BASE OF SKULL
VARIABLE NUMBER 66

SYMBOL	FREQUENCY
0	725
1	113
2	5
3	63
4	5
5	3
6	[illegible]
7	2

CONTACT AREAS
VARIABLE NUMBER 67

SYMBOL	FREQUENCY
0	3682
2	1
5	7
6	6
9	12
10	16

CONTACT AREAS
VARIABLE NUMBER 68

SYMBOL	FREQUENCY
12	42
14	15
15	4
20	8
21	9
22	11

CONTACT AREAS
VARIABLE NUMBER 69

SYMBOL	FREQUENCY
23	4
25	11
26	2
27	1
29	5
30	3

CONTACT AREAS
VARIABLE NUMBER 70

SYMBOL	FREQUENCY
32	2
34	1
36	10
37	2
38	6
39	4

OVERALL INJURY TO REGION
VARIABLE NUMBER 71

SYMBOL	FREQUENCY
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

CONCUSSION SEVERITY
VARIABLE NUMBER 72

SYMBOL	FREQUENCY
1	6
2	83
3	27
4	11
5	15
6	3
9	2
BLANK	774

LACERATION SEVERITY
VARIABLE NUMBER 73

SYMBOL	FREQUENCY
1	1
3	1
4	1
5	1
6	10
8	1
BLANK	901

ABRASION SEVERITY
VARIABLE NUMBER 74

SYMBOL	FREQUENCY
1	1
BLANK	915

BRUISE SEVERITY
VARIABLE NUMBER 75

SYMBOL	FREQUENCY
2	1
3	1
5	3
6	3
BLANK	908

SPRAIN/STRAIN SEVERITY
VARIABLE NUMBER 76

SYMBOL	FREQUENCY
BLANK	916

FRACTURE SEVERITY
VARIABLE NUMBER 77

SYMBOL	FREQUENCY
2	2
3	2
5	2
6	3
BLANK	907

DISLOCATION SEVERITY
VARIABLE NUMBER 78

SYMBOL	FREQUENCY
6	1
BLANK	915

AVULSION SEVERITY
VARIABLE NUMBER 79

SYMBOL	FREQUENCY
6	1
BLANK	915

HEMORRHAGE SEVERITY
VARIABLE NUMBER 80

SYMBOL	FREQUENCY
3	1
4	3
5	5
6	8
BLANK	899

BURN SEVERITY
VARIABLE NUMBER 81

SYMBOL	FREQUENCY
BLANK	916

COMPLAINTS OF PAIN SEVERITY
VARIABLE NUMBER 82

SYMBOL	FREQUENCY
1	3
BLANK	913

OTHER SEVERITY
VARIABLE NUMBER 83

SYMBOL	FREQUENCY
2	15
3	7
4	1
5	2
6	2
BLANK	889

FACE
VARIABLE NUMBER 84

SYMBOL	FREQUENCY
0	501
1	220
2	14
3	127
4	19
5	4
6	18
7	6
10	1

CONTACT AREAS
VARIABLE NUMBER 85

SYMBOL	FREQUENCY
0	3197
2	5
3	2
5	42
6	19
7	78
10	38

CONTACT AREAS VARIABLE NUMBER [illegible]

SYMBOL	FREQUENCY
12	139
14	20
15	3
19	1
20	13
21	11

CONTACT AREAS VARIABLE NUMBER 87

SYMBOL	FREQUENCY
22	27
23	6
25	7
26	3
29	15
30	9
32	2

CONTACT AREAS VARIABLE NUMBER 88

SYMBOL	FREQUENCY
33	2
35	3
36	10
37	4
38	4
39	4

OVERALL INJURY TO REGION VARIABLE NUMBER 89

SYMBOL	FREQUENCY
1	[illegible]
2	188
3	28
5	9
6	[illegible]
9	[illegible]
BLANK	[illegible]

CONCUSSION SEVERITY VARIABLE NUMBER 90

SYMBOL	FREQUENCY
1	2
2	1
BLANK	913

LACERATION SEVERITY VARIABLE NUMBER 91

SYMBOL	FREQUENCY
[illegible]	[illegible]

ABRASION SEVERITY VARIABLE NUMBER 92

SYMBOL	FREQUENCY
1	65
2	15
3	1
4	1
6	1
BLANK	833

BRUISE SEVERITY VARIABLE NUMBER 93

SYMBOL	FREQUENCY
1	122
2	5
3	1
4	1
6	1
9	1
BLANK	785

SPRAIN/STRAIN SEVERITY VARIABLE NUMBER 94

SYMBOL	FREQUENCY
1	2
BLANK	914

FRACTURE SEVERITY VARIABLE NUMBER 95

SYMBOL	FREQUENCY
1	29
2	15
3	15
4	2
6	2
BLANK	853

DISLOCATION SEVERITY VARIABLE NUMBER 96

SYMBOL	FREQUENCY
[illegible]	[illegible]

AVULSION SEVERITY VARIABLE NUMBER 97

SYMBOL	FREQUENCY
2	4
3	2
BLANK	910

HEMORRHAGE SEVERITY VARIABLE NUMBER 98

SYMBOL	FREQUENCY
1	11
2	2
4	1
BLANK	902

BURN SEVERITY VARIABLE NUMBER 99

SYMBOL	FREQUENCY
3	1
BLANK	915

COMPLAINTS OF PAIN SEVERITY VARIABLE NUMBER 100

SYMBOL	FREQUENCY
1	17
BLANK	899

OTHER SEVERITY VARIABLE NUMBER 101

SYMBOL	FREQUENCY
[illegible]	[illegible]

NECK VARIABLE NUMBER 102

SYMBOL	FREQUENCY
0	818
1	57
2	3
3	30
4	2
5	2
6	4

CONTACT AREAS VARIABLE NUMBER 103

SYMBOL	FREQUENCY
0	[illegible]
5	4
6	2
9	1
19	1

CONTACT AREAS VARIABLE NUMBER 104

SYMBOL	FREQUENCY
12	7
14	6
20	1
21	2
22	3

CONTACT AREAS VARIABLE NUMBER 105

SYMBOL	FREQUENCY
25	4
26	1
29	10
30	5
31	2

CONTACT AREAS VARIABLE NUMBER 106

SYMBOL	FREQUENCY
35	1
37	1
38	6
39	1

OVERALL INJURY TO REGION VARIABLE NUMBER 107

SYMBOL	FREQUENCY
1	48
2	9
3	9
4	1
5	1
6	8
9	1
BLANK	[illegible]

CONCUSSION SEVERITY VARIABLE NUMBER 108

SYMBOL	FREQUENCY
1	1
BLANK	915

LACERATION SEVERITY VARIABLE NUMBER 109

SYMBOL	FREQUENCY
1	11
2	4
3	3
6	1
BLANK	897

ABRASION SEVERITY VARIABLE NUMBER 110

SYMBOL	FREQUENCY
1	8
2	1
3	1
BLANK	906

BRUISE SEVERITY VARIABLE NUMBER 111

SYMBOL	FREQUENCY
1	19
3	1
BLANK	[illegible]

SPRAIN/STRAIN SEVERITY VARIABLE NUMBER 112

SYMBOL	FREQUENCY
1	14
2	2
BLANK	900

FRACTURE SEVERITY VARIABLE NUMBER 113

SYMBOL	FREQUENCY
3	5
5	1
6	7
BLANK	903

DISLOCATION SEVERITY VARIABLE NUMBER 114

SYMBOL	FREQUENCY
3	1
5	1
6	0
9	3
BLANK	911

AVULSION SEVERITY VARIABLE NUMBER 115

SYMBOL	FREQUENCY
1	1
BLANK	915

HEMORRHAGE SEVERITY VARIABLE NUMBER 116

SYMBOL	FREQUENCY
2	1
4	1
BLANK	914

BURN SEVERITY VARIABLE NUMBER 117

SYMBOL	FREQUENCY
BLANK	916

COMPLAINTS OF PAIN SEVERITY VARIABLE NUMBER 118

SYMBOL	FREQUENCY
1	22
2	1
BLANK	893

OTHER SEVERITY VARIABLE NUMBER 119

SYMBOL	FREQUENCY
1	11
2	2
4	1
5	1
BLANK	901

THORACIC SPINE VARIABLE NUMBER 120

SYMBOL	FREQUENCY
0	901
1	1
2	1
3	6
4	1
5	0
6	2

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   CONTACT AREAS               CONTACT AREAS               CONTACT AREAS               CONTACT AREAS               OVERALL INJURY
                                                                                                                    TO REGION
*  VARIABLE NUMBER  121   **  VARIABLE NUMBER  122   **  VARIABLE NUMBER  123   **  VARIABLE NUMBER  124   **  VARIABLE NUMBER  125   *
*******************************************************************************************************************************
*  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     *

*    0        3649        **    16         1         **    26         1         **    36         1         **     1         6        *
*    5           2        **    20         1         **    29         4         **    38         1         **     2         2        *
*    9           6        **                         **                         **                         **     3         1        *
*                         **                         **                         **                         **     4         1        *
*                         **                         **                         **                         **     6         1        *
*                         **                         **                         **                         **     9         2        *
*                         **                         **                         **                         **   BLANK     903        *

CONCUSSION SEVERITY          LACERATION SEVERITY         ABRASION SEVERITY           BRUISE SEVERITY             SPRAIN/STRAIN SEVERITY
*  VARIABLE NUMBER  126   **  VARIABLE NUMBER  127   **  VARIABLE NUMBER  128   **  VARIABLE NUMBER  129   **  VARIABLE NUMBER  130   *
*******************************************************************************************************************************
*  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     *

*  BLANK      916         **     2         1         **     2         1         **     1         1         **     4         1        *
*                         **     4         1         **   BLANK     915         **     2         1         **   BLANK     915        *
*                         **   BLANK     914         **                         **   BLANK     914         **                        *

FRACTURE SEVERITY            DISLOCATION SEVERITY        AVULSION SEVERITY           HEMORRHAGE SEVERITY         BURN SEVERITY
*  VARIABLE NUMBER  131   **  VARIABLE NUMBER  132   **  VARIABLE NUMBER  133   **  VARIABLE NUMBER  134   **  VARIABLE NUMBER  135   *
*******************************************************************************************************************************
*  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     *

*  [illegible]            **   BLANK     916         **   BLANK     916         **   BLANK     916         **   BLANK     916        *
*                         **                         **                         **                         **                        *
*                         **                         **                         **                         **                        *
*                         **                         **                         **                         **                        *
*                         **                         **                         **                         **                        *
*                         **                         **                         **                         **                        *

COMPLAINTS OF PAIN
  SEVERITY                   OTHER SEVERITY              CHEST WALL                  CONTACT AREAS               CONTACT AREAS
*  VARIABLE NUMBER  136   **  VARIABLE NUMBER  137   **  VARIABLE NUMBER  138   **  VARIABLE NUMBER  139   **  VARIABLE NUMBER  140   *
*******************************************************************************************************************************
*  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     *

*  [illegible]            **     4         2         **     0       534         **     0      3435         **    11         1        *
*                         **   BLANK     914         **     1       131         **     2         4         **    13         1        *
*                         **                         **     2         4         **     3         1         **    14         2        *
*                         **                         **     3        72         **     5        21         **    15         2        *
*                         **                         **     4         4         **     6         1         **    16         1        *
*                         **                         **     5         1         **     8         1         **    20        12        *
*                         **                         **     6         8         **     9       107         **    21        13        *
*                         **                         **     7         1         **                         **                        *
*                         **                         **                         **                         **                        *
*                         **                         **                         **                         **                        *
*                         **                         **                         **                         **                        *

   CONTACT AREAS               CONTACT AREAS             OVERALL INJURY             CONCUSSION SEVERITY         LACERATION SEVERITY
                                                           TO REGION
*  VARIABLE NUMBER  141   **  VARIABLE NUMBER  142   **  VARIABLE NUMBER  143   **  VARIABLE NUMBER  144   **  VARIABLE NUMBER  145   *
*******************************************************************************************************************************
*  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     *

*    22          1        **    33         4         **     1       150         **   BLANK     916         **     1         4        *
*    26          1        **    34        12         **     2        94         **                         **     2         4        *
*    27          1        **    35         2         **     3        45         **                         **     5         1        *
*    29          3        **    36         7         **     4        24         **                         **     6         1        *
*    30          4        **    37         3         **     5        17         **                         **   BLANK     906        *
*    31          1        **    38         5         **     6         5         **                         **                        *
*    32          5        **    39         1         **     9         7         **                         **                        *
*                         **                         **   BLANK     [illegible] **                         **                        *

ABRASION SEVERITY            BRUISE SEVERITY             SPRAIN/STRAIN SEVERITY      FRACTURE SEVERITY           DISLOCATION SEVERITY
*  VARIABLE NUMBER  146   **  VARIABLE NUMBER  147   **  VARIABLE NUMBER  148   **  VARIABLE NUMBER  149   **  VARIABLE NUMBER  150   *
*******************************************************************************************************************************
*  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     *

*  [illegible]            **     1        76         **     1         1         **     2        37         **     2         1        *
*                         **     2        19         **   BLANK     915         **     3        33         **   BLANK     915        *
*                         **     3         3         **                         **     4        65         **                        *
*                         **     4         1         **                         **     5         8         **                        *
*                         **   BLANK     821         **                         **     6         7         **                        *
*                         **                         **                         **     9         0         **                        *
*                         **                         **                         **   BLANK     815         **                        *

AVULSION SEVERITY            HEMORRHAGE SEVERITY         BURN SEVERITY               COMPLAINTS OF PAIN          OTHER SEVERITY
                                                                                      SEVERITY
*  VARIABLE NUMBER  151   **  VARIABLE NUMBER  152   **  VARIABLE NUMBER  153   **  VARIABLE NUMBER  154   **  VARIABLE NUMBER  155   *
*******************************************************************************************************************************
*  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     *

*  BLANK      916         **     1         1         **     6         1         **     1        34         **     1         3        *
*                         **     3         3         **   BLANK     915         **   BLANK     882         **     2         2        *
*                         **     4         2         **                         **                         **     3         1        *
*                         **     5         1         **                         **                         **     4         3        *
*                         **     6         2         **                         **                         **     5         3        *
*                         **   BLANK     907         **                         **                         **   BLANK     900        *

  (A) LUNGS                  CONTACT AREAS               CONTACT AREAS               CONTACT AREAS               CONTACT AREAS
*  VARIABLE NUMBER  156   **  VARIABLE NUMBER  157   **  VARIABLE NUMBER  158   **  VARIABLE NUMBER  159   **  VARIABLE NUMBER  160   *
*******************************************************************************************************************************
*  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     **  SYMBOL   FREQUENCY     *

*    0         865        **     0      3611         **    12         1         **    21         3         **    34         1        *
*    1          27        **     2         1         **    13         1         **    26         1         **    36         3        *
*    2           2        **     3         1         **    15         2         **    29         1         **    37         2        *
*    3          17        **     5         6         **    20         8         **    30         1         **    38         4        *
*    4           2        **     9        16         **                         **    33         1         **                        *
*    7           2        **                         **                         **                         **                        *
*    8           1        **                         **                         **                         **                        *
*                         **                         **                         **                         **                        *
*                         **                         **                         **                         **                        *
*                         **                         **                         **                         **                        *
```

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OVERALL INJURY TO REGION   CONCUSSION SEVERITY       LACERATION SEVERITY       ABRASION SEVERITY         BRUISE SEVERITY
* VARIABLE NUMBER 161 ** VARIABLE NUMBER 162 ** VARIABLE NUMBER 163 ** VARIABLE NUMBER 164 ** VARIABLE NUMBER 165 *
***********************************************************************************************************************
* SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    *
*   2         2        **  BLANK     916       **   3         3        **   5         1        **   2         1        *
*   3        11        **                      **   4         1        **  BLANK     915       **   3         8        *
*   4         4        **                      **   5         2        **                      **   6         3        *
*   5        11        **                      **   6         4        **                      **  BLANK     904       *
*   6        65        **                      **   7         1        **                      **                      *
*   7         1        **                      **  BLANK     901       **                      **                      *
*  BLANK   [illegible] **                      **                      **                      **                      *

SPRAIN/STRAIN SEVERITY     FRACTURE SEVERITY         DISLOCATION SEVERITY      AVULSION SEVERITY         HEMORRHAGE SEVERITY
* VARIABLE NUMBER 166 ** VARIABLE NUMBER 167 ** VARIABLE NUMBER 168 ** VARIABLE NUMBER 169 ** VARIABLE NUMBER 170 *
***********************************************************************************************************************
* SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    *
*  BLANK     916       **  BLANK     916       **  BLANK     916       **   5         1        **   3         5        *
*                      **                      **                      **   6         1        **   4         4        *
*                      **                      **                      **  BLANK     914       **   5        15        *
*                      **                      **                      **                      **   6        11        *
*                      **                      **                      **                      **  BLANK     881       *

BURN SEVERITY              COMPLAINTS OF PAIN        OTHER SEVERITY            (3) HEART AND             CONTACT AREAS
                           SEVERITY                                            MEDIASTINUM
* VARIABLE NUMBER 171 ** VARIABLE NUMBER 172 ** VARIABLE NUMBER 173 ** VARIABLE NUMBER 174 ** VARIABLE NUMBER 175 *
***********************************************************************************************************************
* SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    *
*[illegible]  1        **  BLANK     916       **   2         1        **   0        882       **   0    [illegible]  *
*  BLANK     915       **                      **   3         3        **   1        26        **[illegible] [illegible]*
*                      **                      **   4         4        **   2         7        **[illegible] [illegible]*
*                      **                      **   6         7        **   4         1        **                      *
*                      **                      **  BLANK     901       **                      **                      *

CONTACT AREAS              CONTACT AREAS             CONTACT AREAS             OVERALL INJURY            CONCUSSION SEVERITY
                                                                               TO REGION
* VARIABLE NUMBER 176 ** VARIABLE NUMBER 177 ** VARIABLE NUMBER 178 ** VARIABLE NUMBER 179 ** VARIABLE NUMBER 180 *
***********************************************************************************************************************
* SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    *
*  12         1        **  20         1        **  36         1        **   4         2        **  BLANK     916       *
*  15         1        **  21         1        **  37         1        **   5         4        **                      *
*                      **  23         1        **                      **   6        17        **                      *
*                      **                      **                      **   7         1        **                      *
*                      **                      **                      **  BLANK     892       **                      *

LACERATION SEVERITY        ABRASION SEVERITY         BRUISE SEVERITY           SPRAIN/STRAIN SEVERITY    FRACTURE SEVERITY
* VARIABLE NUMBER 181 ** VARIABLE NUMBER 182 ** VARIABLE NUMBER 183 ** VARIABLE NUMBER 184 ** VARIABLE NUMBER 185 *
***********************************************************************************************************************
* SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    *
*[illegible]          **  BLANK     916       **   4         2        **  BLANK     916       **  BLANK     916       *
*                      **                      **  BLANK     914       **                      **                      *

DISLOCATION SEVERITY       AVULSION SEVERITY         HEMORRHAGE SEVERITY       BURN SEVERITY             COMPLAINTS OF PAIN
                                                                                                         SEVERITY
* VARIABLE NUMBER 186 ** VARIABLE NUMBER 187 ** VARIABLE NUMBER 188 ** VARIABLE NUMBER 189 ** VARIABLE NUMBER 190 *
***********************************************************************************************************************
* SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    *
*  BLANK     916       **   6         2        **   5         1        **   6         1        **  BLANK     916       *
*                      **  BLANK     914       **   6         4        **  BLANK     915       **                      *
*                      **                      **  BLANK     911       **                      **                      *

OTHER SEVERITY             ABDOMINAL WALL            CONTACT AREAS             CONTACT AREAS             CONTACT AREAS
* VARIABLE NUMBER 191 ** VARIABLE NUMBER 192 ** VARIABLE NUMBER 193 ** VARIABLE NUMBER 194 ** VARIABLE NUMBER 195 *
***********************************************************************************************************************
* SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    *
*   4         1        **   0        865       **   0    [illegible]  **   9        26        **  29         4        *
*   6         1        **   1        17        **   2         2        **  11         1        **  32         1        *
*  BLANK     914       **   2         3        **   3         1        **  15         1        **  33         2        *
*                      **   3        21        **   5         4        **  20         7        **  34    [illegible]  *
*                      **   4         6        **                      **                      **                      *
*                      **   6         2        **                      **                      **                      *
*                      **   7         1        **                      **                      **                      *

CONTACT AREAS              OVERALL INJURY            CONCUSSION SEVERITY       LACERATION SEVERITY       ABRASION SEVERITY
                           TO REGION
* VARIABLE NUMBER 196 ** VARIABLE NUMBER 197 ** VARIABLE NUMBER 198 ** VARIABLE NUMBER 199 ** VARIABLE NUMBER 200 *
***********************************************************************************************************************
* SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    ** SYMBOL  FREQUENCY    *
*  35         1        **   1        41        **   8         4        **   1         1        **   1         2        *
*  36         1        **   2        10        **  BLANK     912       **   3         3        **   2         2        *
*  38         3        **   3         4        **                      **   4         3        **  BLANK     912       *
*  40         1        **   4         5        **                      **   6         2        **                      *
*                      **   5         1        **                      **  BLANK     907       **                      *
*                      **   6         5        **                      **                      **                      *
*                      **   7         1        **                      **                      **                      *
*                      **  BLANK     849       **                      **                      **                      *
```

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BRUISE SEVERITY                VARIABLE NUMBER 201
   SYMBOL   FREQUENCY
     1         27
     2          8
     3          1
     4          1
   BLANK      879

SPRAIN/STRAIN SEVERITY         VARIABLE NUMBER 202
   SYMBOL   FREQUENCY
   BLANK      916

FRACTURE SEVERITY              VARIABLE NUMBER 203
   SYMBOL   FREQUENCY
   BLANK      [illegible]

DISLOCATION SEVERITY           VARIABLE NUMBER 204
   SYMBOL   FREQUENCY
   BLANK      916

AVULSION SEVERITY              VARIABLE NUMBER 205
   SYMBOL   FREQUENCY
   BLANK      916

HEMORRHAGE SEVERITY            VARIABLE NUMBER 206
   SYMBOL   FREQUENCY
     4          2
     5          1
     6          2
   BLANK      911

BURN SEVERITY                  VARIABLE NUMBER 207
   SYMBOL   FREQUENCY
     6          8
   BLANK      908

COMPLAINTS OF PAIN SEVERITY    VARIABLE NUMBER 208
   SYMBOL   FREQUENCY
     1         [illegible]
   BLANK      [illegible]

OTHER SEVERITY                 VARIABLE NUMBER 209
   SYMBOL   FREQUENCY
     1          8
     4          8
   BLANK      [illegible]

(A) LIVER                      VARIABLE NUMBER 210
   SYMBOL   FREQUENCY
     0        [illegible]
     1         11
     5          9

CONTACT AREAS                  VARIABLE NUMBER 211
   SYMBOL   FREQUENCY
     0       [illegible]
     5          2
     9          9

CONTACT AREAS                  VARIABLE NUMBER 212
   SYMBOL   FREQUENCY
    18          7
    15          1

CONTACT AREAS                  VARIABLE NUMBER 213
   SYMBOL   FREQUENCY
    20          5
    21          2

CONTACT AREAS                  VARIABLE NUMBER 214
   SYMBOL   FREQUENCY
    [illegible] 1
    [illegible] 1

OVERALL INJURY TO REGION       VARIABLE NUMBER 215
   SYMBOL   FREQUENCY
     3          1
     4          0
     5         11
     6          0
   BLANK      [illegible]

CONCUSSION SEVERITY            VARIABLE NUMBER 216
   SYMBOL   FREQUENCY
   BLANK      916

LACERATION SEVERITY            VARIABLE NUMBER 217
   SYMBOL   FREQUENCY
     4          4
     5         15
     6          4
   BLANK      893

ABRASION SEVERITY              VARIABLE NUMBER 218
   SYMBOL   FREQUENCY
   BLANK      916

BRUISE SEVERITY                VARIABLE NUMBER 219
   SYMBOL   FREQUENCY
     1          1
     5          1
   BLANK      914

SPRAIN/STRAIN SEVERITY         VARIABLE NUMBER 220
   SYMBOL   FREQUENCY
   BLANK      916

FRACTURE SEVERITY              VARIABLE NUMBER 221
   SYMBOL   FREQUENCY
   BLANK      916

DISLOCATION SEVERITY           VARIABLE NUMBER 222
   SYMBOL   FREQUENCY
   BLANK      916

AVULSION SEVERITY              VARIABLE NUMBER 223
   SYMBOL   FREQUENCY
   BLANK      916

HEMORRHAGE SEVERITY            VARIABLE NUMBER 224
   SYMBOL   FREQUENCY
     6          1
   BLANK      915

BURN SEVERITY                  VARIABLE NUMBER 225
   SYMBOL   FREQUENCY
   BLANK      916

COMPLAINTS OF PAIN SEVERITY    VARIABLE NUMBER 226
   SYMBOL   FREQUENCY
   BLANK      916

OTHER SEVERITY                 VARIABLE NUMBER 227
   SYMBOL   FREQUENCY
   BLANK      916

(A) SPLEEN                     VARIABLE NUMBER 228
   SYMBOL   FREQUENCY
     0        [illegible]
     1          9
     2          2
     3          1
     4          1

CONTACT AREAS                  VARIABLE NUMBER 229
   SYMBOL   FREQUENCY
     0       [illegible]
     5          2

CONTACT AREAS                  VARIABLE NUMBER 230
   SYMBOL   FREQUENCY
     4          1
    14          1

CONTACT AREAS                  VARIABLE NUMBER 231
   SYMBOL   FREQUENCY
    21          2
    31          1

CONTACT AREAS                  VARIABLE NUMBER 232
   SYMBOL   FREQUENCY
    55          2
    58          1

OVERALL INJURY TO REGION       VARIABLE NUMBER 233
   SYMBOL   FREQUENCY
     3          8
     4         11
     5          8
     6          8
   BLANK      881

CONCUSSION SEVERITY            VARIABLE NUMBER 234
   SYMBOL   FREQUENCY
   BLANK      916

LACERATION SEVERITY            VARIABLE NUMBER 235
   SYMBOL   FREQUENCY
     3          1
     4         10
     5          8
     6          3
   BLANK      [illegible]

ABRASION SEVERITY              VARIABLE NUMBER 236
   SYMBOL   FREQUENCY
   BLANK      916

BRUISE SEVERITY                VARIABLE NUMBER 237
   SYMBOL   FREQUENCY
     4          1
   BLANK      915

SPRAIN/STRAIN SEVERITY         VARIABLE NUMBER 238
   SYMBOL   FREQUENCY
   BLANK      916

FRACTURE SEVERITY              VARIABLE NUMBER 239
   SYMBOL   FREQUENCY
   BLANK      916

DISLOCATION SEVERITY           VARIABLE NUMBER 240
   SYMBOL   FREQUENCY
   BLANK      916

AVULSION SEVERITY              VARIABLE NUMBER 241
   SYMBOL   FREQUENCY
   BLANK      916

HEMORRHAGE SEVERITY            VARIABLE NUMBER 242
   SYMBOL   FREQUENCY
     5          1
     6          1
   BLANK      914

BURN SEVERITY                  VARIABLE NUMBER 243
   SYMBOL   FREQUENCY
   BLANK      916

COMPLAINTS OF PAIN SEVERITY    VARIABLE NUMBER 244
   SYMBOL   FREQUENCY
   BLANK      916

OTHER SEVERITY                 VARIABLE NUMBER 245
   SYMBOL   FREQUENCY
     3          1
   BLANK      915
```

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(C) KIDNEYS & URETERS     CONTACT AREAS              CONTACT AREAS              CONTACT AREAS              CONTACT AREAS
*  VARIABLE NUMBER  246 ** VARIABLE NUMBER  247 ** VARIABLE NUMBER  248 ** VARIABLE NUMBER  249 ** VARIABLE NUMBER  250 *
**************************************************************************************************************************
*  SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   *

*    0        907       **   0        3656      **   9          1       **   13         1       **   21         1       *
*    1          6       **   5           2      **                      **   20         1       **                      *
*    2          1       **                      **                      **                      **                      *
*    3          2       **                      **                      **                      **                      *
*                       **                      **                      **                                              *

   OVERALL INJURY
     TO REGION            CONCUSSION SEVERITY     LACERATION SEVERITY       ABRASION SEVERITY        BRUISE SEVERITY
*  VARIABLE NUMBER  251 ** VARIABLE NUMBER  252 ** VARIABLE NUMBER  253 ** VARIABLE NUMBER  254 ** VARIABLE NUMBER  255 *
**************************************************************************************************************************
*  SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   *

*  [illegible] [illegible] ** BLANK     916     **   4          4       ** BLANK     916     **   3          1       *
*  [illegible] [illegible] **                   ** BLANK     912        **                   ** BLANK     915       *
*  BLANK    [illegible] **                      **                      **                      **                      *

SPRAIN/STRAIN SEVERITY    FRACTURE SEVERITY        DISLOCATION SEVERITY      AVULSION SEVERITY        HEMORRHAGE SEVERITY
*  VARIABLE NUMBER  256 ** VARIABLE NUMBER  257 ** VARIABLE NUMBER  258 ** VARIABLE NUMBER  259 ** VARIABLE NUMBER  260 *
**************************************************************************************************************************
*  SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   *

*  BLANK      916       ** BLANK      916       ** BLANK      916       ** BLANK      916       **   3          2       *
*                       **                      **                      **                      ** BLANK      914       *

                          COMPLAINTS OF PAIN
   BURN SEVERITY              SEVERITY             OTHER SEVERITY           (D) OTHER                CONTACT AREAS
*  VARIABLE NUMBER  261 ** VARIABLE NUMBER  262 ** VARIABLE NUMBER  263 ** VARIABLE NUMBER  264 ** VARIABLE NUMBER  265 *
**************************************************************************************************************************
*  SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   *

*  BLANK      916       ** BLANK      916       ** BLANK      916       **   0        902       **   0        3647      *
*                       **                      **                      **   1          9       **   5           2      *
*                       **                      **                      **   2          1       **   9           1      *
*                       **                      **                      **   3          4       **                      *
*                       **                      **                      **                      **                      *

                                                                          OVERALL INJURY
   CONTACT AREAS          CONTACT AREAS            CONTACT AREAS            TO REGION              CONCUSSION SEVERITY
*  VARIABLE NUMBER  266 ** VARIABLE NUMBER  267 ** VARIABLE NUMBER  268 ** VARIABLE NUMBER  269 ** VARIABLE NUMBER  270 *
**************************************************************************************************************************
*  SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   *

*   14          1       **   21         1       **   31         2       **   1          1       ** BLANK      916       *
*   20          1       **   22         1       **   38         1       **   2          1       **                      *
*                       **   30         1       **                      **   3          4       **                      *
*                       **                      **                      **   4          4       **                      *
*                       **                      **                      **   5          1       **                      *
*                       **                      **                      **   6          2       **                      *
*                       **                      **                      ** BLANK      902       **                      *
*                       **                      **                      **                      **                      *

LACERATION SEVERITY       ABRASION SEVERITY        BRUISE SEVERITY          SPRAIN/STRAIN SEVERITY    FRACTURE SEVERITY
*  VARIABLE NUMBER  271 ** VARIABLE NUMBER  272 ** VARIABLE NUMBER  273 ** VARIABLE NUMBER  274 ** VARIABLE NUMBER  275 *
**************************************************************************************************************************
*  SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   *

*  [illegible]          **   4          1       **   3          1       ** BLANK      916       ** BLANK      916       *
*  [illegible]          ** BLANK      915       **   4          1       **                      **                      *
*  [illegible]          **                      ** BLANK      914       **                      **                      *
*  [illegible]          **                      **                      **                      **                      *
*  [illegible]          **                      **                      **                      **                      *
*  BLANK    [illegible] **                      **                      **                      **                      *

                                                                                                  COMPLAINTS OF PAIN
DISLOCATION SEVERITY      AVULSION SEVERITY        HEMORRHAGE SEVERITY      BURN SEVERITY                SEVERITY
*  VARIABLE NUMBER  276 ** VARIABLE NUMBER  277 ** VARIABLE NUMBER  278 ** VARIABLE NUMBER  279 ** VARIABLE NUMBER  280 *
**************************************************************************************************************************
*  SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   *

*  BLANK      916       ** BLANK      916       **   4          2       ** BLANK      916       **   1          1       *
*                       **                      **   5          1       **                      **   3          1       *
*                       **                      ** BLANK      913       **                      ** BLANK      914       *
*                       **                      **                      **                                              *

   OTHER SEVERITY           LOWER BACK              CONTACT AREAS            CONTACT AREAS            CONTACT AREAS
*  VARIABLE NUMBER  281 ** VARIABLE NUMBER  282 ** VARIABLE NUMBER  283 ** VARIABLE NUMBER  284 ** VARIABLE NUMBER  285 *
**************************************************************************************************************************
*  SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   *

*    4          1       **   0        896       **   0        3653      **   30         2       **   34         1       *
*  BLANK      915       **   1         11       **   29          3      **   32         1       **   36         1       *
*                       **   3          4       **                      **                      **                      *
*                       **   4          1       **                      **                      **                      *
*                       **   6          3       **                      **                      **                      *
*                       **   7          1       **                      **                      **                      *
*                       **                      **                      **                      **                      *
*                       **                      **                      **                      **                      *

                            OVERALL INJURY
   CONTACT AREAS              TO REGION            CONCUSSION SEVERITY      LACERATION SEVERITY       ABRASION SEVERITY
*  VARIABLE NUMBER  286 ** VARIABLE NUMBER  287 ** VARIABLE NUMBER  288 ** VARIABLE NUMBER  289 ** VARIABLE NUMBER  290 *
**************************************************************************************************************************
*  SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   ** SYMBOL   FREQUENCY   *

*   38          1       **   1         14       ** BLANK      916       ** BLANK      916       ** BLANK      916       *
*                       **   2          1       **                      **                      **                      *
*                       **   3          4       **                      **                      **                      *
*                       **   4          1       **                      **                      **                      *
*                       ** BLANK      896       **                      **                      **                      *
```

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 BRUISE SEVERITY            SPRAIN/STRAIN SEVERITY       FRACTURE SEVERITY          DISLOCATION SEVERITY        AVULSION SEVERITY
*  VARIABLE NUMBER  291  **  VARIABLE NUMBER  292  **  VARIABLE NUMBER  293  **  VARIABLE NUMBER  294  **  VARIABLE NUMBER  295  *
**********************************************************************************************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *
*                        **                        **                        **                        **                        *
*     1          4       **     1          1       **     2          1       **   BLANK      916       **   BLANK      916       *
*   BLANK      912       **   BLANK      915       **     3          4       **                        **                        *
*                        **                        **   BLANK      911       **                        **                        *

                                                       COMPLAINTS OF PAIN
HEMORRHAGE SEVERITY         BURN SEVERITY                  SEVERITY                OTHER SEVERITY
*  VARIABLE NUMBER  296  **  VARIABLE NUMBER  297  **  VARIABLE NUMBER  298  **  VARIABLE NUMBER  299  *
**********************************************************************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *
*                        **                        **                        **                        *
*   BLANK      916       **   BLANK      916       **     1          8       **     1          1       *
*                        **                        **   BLANK      908       **     4          1       *
*                        **                        **                        **   BLANK      914       *

     END OF OUTPUT FOR MODULAR CODE C13-07


FINISH CARD ENCOUNTERED, PROGRAM TERMINATED




     AMCOUNT - ALPHANUMERIC FREQUENCY COUNT - VERSION OF  MAY  22, 1969
     HEALTH SCIENCES COMPUTING FACILITY, UCLA
     MODULAR CODE C28-01
     NUMBER OF OBSERVATIONS =   916
                         RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM
RIGHT SHOULDER AND ARM
   OCCUPANT NUMBER
                              CONTACT AREAS           CONTACT AREAS           CONTACT AREAS           CONTACT AREAS
*  VARIABLE NUMBER    1  **  VARIABLE NUMBER    2  **  VARIABLE NUMBER    3  **  VARIABLE NUMBER    4  **  VARIABLE NUMBER    5  *
**********************************************************************************************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *
*                        **                        **                        **                        **                        *
*     0        812       **     0       3672       **    14     [illegible]  **    22          4       **    32     [illegible]  *
*     1         47       **     2          2       **    19     [illegible]  **    23     [illegible]  **    34     [illegible]  *
*     2          3       **     3         12       **    16     [illegible]  **    26     [illegible]  **    45     [illegible]  *
*     3         43       **     4          1       **    23     [illegible]  **    27     [illegible]  **    46     [illegible]  *
*     4          4       **     7         14       **    28         10       **    32     [illegible]  **    47     [illegible]  *
*     5          1       **    11          2       **    31     [illegible]  **    33     [illegible]  **    56     [illegible]  *
*     6          1       **    12          2       **                        **                        **                        *
*     7          1       **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *

RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM
OVERALL INJ. TO REGION    CONCUSSION SEVERITY    LACERATION SEVERITY      ABRASION SEVERITY       BRUISE SEVERITY
*  VARIABLE NUMBER    6  **  VARIABLE NUMBER    7  **  VARIABLE NUMBER    8  **  VARIABLE NUMBER    9  **  VARIABLE NUMBER   10  *
**********************************************************************************************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *
*                        **                        **                        **                        **                        *
*  [illegible] [illegible] ** BLANK      916       **     1         13       **     1         18       **     1         20       *
*  [illegible]    29     **                        **     2          4       **     2          1       **     2          2       *
*  [illegible] [illegible] **                      **     3          1       **     4          1       **     4          1       *
*  [illegible]     2     **                        **     4          1       **   BLANK      896       **   BLANK      893       *
*  [illegible]     1     **                        **   BLANK      897       **                        **                        *
*   BLANK      817       **                        **                        **                        **                        *

RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM
SPRAIN/STRAIN SEVERITY    FRACTURE SEVERITY     DISLOCATION SEVERITY     AVULSION SEVERITY      HEMORRHAGE SEVERITY
*  VARIABLE NUMBER   11  **  VARIABLE NUMBER   12  **  VARIABLE NUMBER   13  **  VARIABLE NUMBER   14  **  VARIABLE NUMBER   15  *
**********************************************************************************************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *
*                        **                        **                        **                        **                        *
*     4          2       **     1          1       **     3          2       **   BLANK      916       **   BLANK      916       *
*   BLANK      914       **     2         14       **   BLANK      914       **                        **                        *
*                        **     3          4       **                        **                        **                        *
*                        **     4          1       **                        **                        **                        *
*                        **   BLANK      897       **                        **                        **                        *

RIGHT SHOULDER AND ARM  RIGHT SHOULDER AND ARM     RIGHT SHOULDER AND ARM  RIGHT ELBOW               RIGHT ELBOW
    BURN SEVERITY      COMPLAINTS OF PAIN SEVERITY    OTHER SEVERITY         OCC. NO.              CONTACT AREAS
*  VARIABLE NUMBER   16  **  VARIABLE NUMBER   17  **  VARIABLE NUMBER   18  **  VARIABLE NUMBER   19  **  VARIABLE NUMBER   20  *
**********************************************************************************************************************************
*   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   **   SYMBOL   FREQUENCY   *
*                        **                        **                        **                        **                        *
*   BLANK      916       **     1         18       **     3          1       **     0        873       **     0       3625       *
*                        **   BLANK      898       **     4          1       **     1         26       **     2          2       *
*                        **                        **   BLANK      914       **     2          2       **     5          6       *
*                        **                        **                        **     3         12       **     6          8       *
*                        **                        **                        **     4          1       **                        *
*                        **                        **                        **     6          1       **                        *
*                        **                        **                        **     7          1       **                        *
```

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      RIGHT ELBOW                 RIGHT ELBOW                 RIGHT ELBOW                 RIGHT ELBOW                  RIGHT ELBOW
     CONTACT AREAS               CONTACT AREAS               CONTACT AREAS              OVERALL INJURY            CONCUSSION SEVERITY
                                                                                          TO REGION
*  VARIABLE NUMBER   21  **  VARIABLE NUMBER   22  **  VARIABLE NUMBER   23  **  VARIABLE NUMBER   24  **  VARIABLE NUMBER   25  *
****************************************************************************************************************************
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *

*     12        1        **     20        1        **     36        1        **      1       30        **   BLANK     916        *
*     13        2        **     21        1        **     37        1        **      2        3        **                        *
*     15        1        **     22        1        **     38        5        **      3        5        **                        *
*     19        2        **     29        1        **                        **      4        3        **                        *
*                        **                        **                        **   BLANK     875        **                        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *

      RIGHT ELBOW                 RIGHT ELBOW                 RIGHT ELBOW                 RIGHT ELBOW                  RIGHT ELBOW
  LACERATION SEVERITY          ABRASION SEVERITY            BRUISE SEVERITY         SPRAIN/STRAIN SEVERITY         FRACTURE SEVERITY
*  VARIABLE NUMBER   26  **  VARIABLE NUMBER   27  **  VARIABLE NUMBER   28  **  VARIABLE NUMBER   29  **  VARIABLE NUMBER   30  *
****************************************************************************************************************************
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *

*      1   [illegible]   **      1       14        **      1       17        **      2        1        **      3        4        *
*      2   [illegible]   **      2        2        **      2   [illegible]   **   BLANK     915        **   BLANK     912        *
*      3   [illegible]   **      4        1        **   BLANK     891        **                        **                        *
*      4   [illegible]   **   BLANK     899        **                        **                        **                        *
*   BLANK  [illegible]   **                        **                        **                        **                        *

      RIGHT ELBOW                 RIGHT ELBOW                 RIGHT ELBOW                 RIGHT ELBOW                  RIGHT ELBOW
  DISLOCATION SEVERITY         AVULSION SEVERITY          HEMORRHAGE SEVERITY           BURN SEVERITY         COMPLAINTS OF PAIN SEVERITY
*  VARIABLE NUMBER   31  **  VARIABLE NUMBER   32  **  VARIABLE NUMBER   33  **  VARIABLE NUMBER   34  **  VARIABLE NUMBER   35  *
****************************************************************************************************************************
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *

*      1        2        **   BLANK     916        **   BLANK     916        **   BLANK     916        **      1        3        *
*   BLANK     914        **                        **                        **                        **   BLANK     913        *

      RIGHT ELBOW               RIGHT FOREARM               RIGHT FOREARM               RIGHT FOREARM               RIGHT FOREARM
    OTHER SEVERITY             OCCUPANT NUMBER              CONTACT AREAS               CONTACT AREAS               CONTACT AREAS
*  VARIABLE NUMBER   36  **  VARIABLE NUMBER   37  **  VARIABLE NUMBER   38  **  VARIABLE NUMBER   39  **  VARIABLE NUMBER   40  *
****************************************************************************************************************************
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *

*   BLANK     916        **      0      867        **      0   [illegible]   **     12        1        **     25        1        *
*                        **      1       27        **      2        2        **     20        1        **     29        1        *
*                        **      2        2        **      5       11        **     21        1        **     35        1        *
*                        **      3       18        **      9        7        **     22        1        **     36        2        *
*                        **      4        1        **                        **                        **                        *
*                        **      7        1        **                        **                        **                        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *

     RIGHT FOREARM               RIGHT FOREARM               RIGHT FOREARM               RIGHT FOREARM               RIGHT FOREARM
     CONTACT AREAS          OVERALL INJ. TO REGION      CONCUSSION SEVERITY         LACERATION SEVERITY          ABRASION SEVERITY
*  VARIABLE NUMBER   41  **  VARIABLE NUMBER   42  **  VARIABLE NUMBER   43  **  VARIABLE NUMBER   44  **  VARIABLE NUMBER   45  *
****************************************************************************************************************************
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *

*     37        2        **      1       41        **   BLANK     916        **      1       10        **      1       11        *
*     38        1        **      2        5        **                        **      2        1        **      2        8        *
*     39        1        **      3        3        **                        **      3        1        **      4        1        *
*                        **      4        2        **                        **      4        1        **   BLANK     896        *
*                        **   BLANK     865        **                        **   BLANK     903        **                        *

     RIGHT FOREARM               RIGHT FOREARM               RIGHT FOREARM               RIGHT FOREARM               RIGHT FOREARM
    BRUISE SEVERITY         SPRAIN/STRAIN SEVERITY        FRACTURE SEVERITY        DISLOCATION SEVERITY          AVULSION SEVERITY
*  VARIABLE NUMBER   46  **  VARIABLE NUMBER   47  **  VARIABLE NUMBER   48  **  VARIABLE NUMBER   49  **  VARIABLE NUMBER   50  *
****************************************************************************************************************************
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *

*      1       21        **   BLANK     916        **      2        3        **   BLANK     916        **   BLANK     916        *
*      2        4        **                        **      3        2        **                        **                        *
*   BLANK     891        **                        **      4        1        **                        **                        *
*                        **                        **   BLANK     910        **                        **                        *

     RIGHT FOREARM               RIGHT FOREARM               RIGHT FOREARM               RIGHT FOREARM           RIGHT WRIST, HAND
  HEMORRHAGE SEVERITY           BURN SEVERITY        COMPLAINTS OF PAIN SEVERITY      OTHER SEVERITY             OCCUPANT NUMBER
*  VARIABLE NUMBER   51  **  VARIABLE NUMBER   52  **  VARIABLE NUMBER   53  **  VARIABLE NUMBER   54  **  VARIABLE NUMBER   55  *
****************************************************************************************************************************
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *

*      1        1        **   BLANK     916        **      1        2        **   BLANK     916        **      0      844        *
*   BLANK     915        **                        **   BLANK     914        **                        **      1       31        *
*                        **                        **                        **                        **      2        5        *
*                        **                        **                        **                        **      3       28        *
*                        **                        **                        **                        **      4        5        *
*                        **                        **                        **                        **      5        1        *
*                        **                        **                        **                        **      6        1        *
*                        **                        **                        **                        **      8        1        *

   RIGHT WRIST, HAND           RIGHT WRIST, HAND           RIGHT WRIST, HAND           RIGHT WRIST, HAND           RIGHT WRIST, HAND
     CONTACT AREA                CONTACT AREA                CONTACT AREA                CONTACT AREA          OVERALL INJ. TO REGION
*  VARIABLE NUMBER   56  **  VARIABLE NUMBER   57  **  VARIABLE NUMBER   58  **  VARIABLE NUMBER   59  **  VARIABLE NUMBER   60  *
****************************************************************************************************************************
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *

*      0   [illegible]   **     13        1        **     22        1        **     36        2        **      1       99        *
*      3        1        **     16        1        **     23        2        **     37        1        **      2        4        *
*      5        6        **     19        2        **     25        1        **     38        1        **      3        9        *
*      9        8        **     20        4        **     29        1        **     39        1        **      4        1        *
*     12       14        **                        **                        **                        **   BLANK     803        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *
*                        **                        **                        **                        **                        *
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     RIGHT WRIST, HAND          RIGHT WRIST, HAND          RIGHT WRIST, HAND          RIGHT WRIST, HAND           RIGHT WRIST, HAND
   CONCUSSION SEVERITY        LACERATION SEVERITY         ABRASION SEVERITY           BRUISE SEVERITY        SPRAIN/STRAIN SEVERITY
*  VARIABLE NUMBER    61  **  VARIABLE NUMBER    62  **  VARIABLE NUMBER    63  **  VARIABLE NUMBER    64  **  VARIABLE NUMBER    65  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     *

*    BLANK       916      **        1        26      **        1        16      **        1         9      **        1         5      *
*                         **        2         2      **        4         1      **        4         1      **        2         1      *
*                         **        3         1      **    BLANK       899      **    BLANK       906      **        3         1      *
*                         **        4         1      **                         **                         **    BLANK       909      *
*                         **    BLANK       886      **                         **                         **                         *

     RIGHT WRIST, HAND          RIGHT WRIST, HAND          RIGHT WRIST, HAND          RIGHT WRIST, HAND           RIGHT WRIST, HAND
    FRACTURE SEVERITY         DISLOCATION SEVERITY         AVULSION SEVERITY         HEMORRHAGE SEVERITY           BURN SEVERITY
*  VARIABLE NUMBER    66  **  VARIABLE NUMBER    67  **  VARIABLE NUMBER    68  **  VARIABLE NUMBER    69  **  VARIABLE NUMBER    70  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     *

*        1         1      **        3         2      **    BLANK       916      **    BLANK       916      **    BLANK       916      *
*        2         7      **    BLANK       914      **                         **                         **                         *
*        3         1      **                         **                         **                         **                         *
*    BLANK       907      **                         **                         **                         **                         *

     RIGHT WRIST, HAND          RIGHT WRIST, HAND      LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM
COMPLAINTS OF PAIN SEVERITY      OTHER SEVERITY           OCCUPANT NUMBER             CONTACT AREAS              CONTACT AREAS
*  VARIABLE NUMBER    71  **  VARIABLE NUMBER    72  **  VARIABLE NUMBER    73  **  VARIABLE NUMBER    74  **  VARIABLE NUMBER    75  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     *

*        1         2      **        1         5      **        0       818      **        0      3575      **       13         1      *
*    BLANK       914      **    BLANK       911      **        1        58      **        2         1      **       14         1      *
*                         **                         **        2         4      **        5        12      **       15         3      *
*                         **                         **        3        25      **        6         1      **       16         1      *
*                         **                         **        4         5      **        9        13      **       19         2      *
*                         **                         **        5         1      **       12         2      **       20        19      *
*                         **                         **        6         4      **                         **                         *
*                         **                         **        7         1      **                         **                         *
*                         **                         **                         **                         **                         *
*                         **                         **                         **                         **                         *
*                         **                         **                         **                         **                         *
*                         **                         **                         **                         **                         *

  LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM
      CONTACT AREAS              CONTACT AREAS          OVERALL INJ. TO REGION      CONCUSSION SEVERITY        LACERATION SEVERITY
*  VARIABLE NUMBER    76  **  VARIABLE NUMBER    77  **  VARIABLE NUMBER    78  **  VARIABLE NUMBER    79  **  VARIABLE NUMBER    80  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     *

*       21         6      **       32         1      **        1        68      **    BLANK       916      **        1        12      *
*       22         3      **       34         5      **        2        19      **                         **        2         5      *
*       23         1      **       36         4      **        3         6      **                         **        4         1      *
*       25         1      **       37         3      **        4         3      **                         **    BLANK       898      *
*       29         3      **       38         5      **        5         1      **                         **                         *
*       30         1      **                         **    BLANK       819      **                         **                         *
*                         **                         **                         **                         **                         *
*                         **                         **                         **                         **                         *
*                         **                         **                         **                         **                         *

  LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM
    ABRASION SEVERITY           BRUISE SEVERITY       SPRAIN/STRAIN SEVERITY        FRACTURE SEVERITY        DISLOCATION SEVERITY
*  VARIABLE NUMBER    81  **  VARIABLE NUMBER    82  **  VARIABLE NUMBER    83  **  VARIABLE NUMBER    84  **  VARIABLE NUMBER    85  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     *

*        1        11      **        1        35      **    BLANK       916      **        1         1      **        3         1      *
*        2         1      **        2         1      **                         **        2        15      **    BLANK       915      *
*        4         1      **    BLANK       880      **                         **        3         5      **                         *
*    BLANK       903      **                         **                         **        4         2      **                         *
*                         **                         **                         **        5         1      **                         *
*                         **                         **                         **    BLANK       892      **                         *

  LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM      LEFT SHOULDER AND ARM       LEFT SHOULDER AND ARM
    AVULSION SEVERITY         HEMORRHAGE SEVERITY           BURN SEVERITY      COMPLAINTS OF PAIN SEVERITY       OTHER SEVERITY
*  VARIABLE NUMBER    86  **  VARIABLE NUMBER    87  **  VARIABLE NUMBER    88  **  VARIABLE NUMBER    89  **  VARIABLE NUMBER    90  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     *

*    BLANK       916      **    BLANK       916      **    BLANK       916      **        1        14      **        1         3      *
*                         **                         **                         **    BLANK       902      **    BLANK       913      *

        LEFT ELBOW                 LEFT ELBOW                 LEFT ELBOW                 LEFT ELBOW                 LEFT ELBOW
     OCCUPANT NUMBER             CONTACT AREAS              CONTACT AREAS              CONTACT AREAS              CONTACT AREAS
*  VARIABLE NUMBER    91  **  VARIABLE NUMBER    92  **  VARIABLE NUMBER    93  **  VARIABLE NUMBER    94  **  VARIABLE NUMBER    95  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     *

*        0       879      **        0      3631      **       12         1      **       21         2      **       37         1      *
*        1        23      **        2         1      **       14         1      **       30         1      **       38         3      *
*        2         3      **        5         5      **       19         1      **       32         1      **       39         1      *
*        3         9      **        9         4      **       20        10      **       34         1      **                         *
*        4         1      **                         **                         **                         **                         *
*        6         1      **                         **                         **                         **                         *
*                         **                         **                         **                         **                         *
*                         **                         **                         **                         **                         *

        LEFT ELBOW                 LEFT ELBOW                 LEFT ELBOW                 LEFT ELBOW                 LEFT ELBOW
  OVERALL INJ. TO REGION      CONCUSSION SEVERITY        LACERATION SEVERITY         ABRASION SEVERITY           BRUISE SEVERITY
*  VARIABLE NUMBER    96  **  VARIABLE NUMBER    97  **  VARIABLE NUMBER    98  **  VARIABLE NUMBER    99  **  VARIABLE NUMBER   100  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     **   SYMBOL  FREQUENCY     *

*        1        24      **    BLANK       916      **        1         6      **        1        10      **        1        11      *
*        2         5      **                         **        2         3      **        2         1      **        2         1      *
*        3         1      **                         **        3         1      **        4         1      **    BLANK       904      *
*        4         7      **                         **        4         1      **    BLANK       904      **                         *
*    BLANK       879      **                         **    BLANK       905      **                         **                         *
```

LEFT ELBOW SPRAIN/STRAIN SEVERITY

```
VARIABLE NUMBER 101
SYMBOL   FREQUENCY
  2          1
BLANK      915
```

LEFT ELBOW FRACTURE SEVERITY

```
VARIABLE NUMBER 102
SYMBOL   FREQUENCY
  2          1
  4          1
BLANK      914
```

LEFT ELBOW DISLOCATION SEVERITY

```
VARIABLE NUMBER 103
SYMBOL   FREQUENCY
BLANK      916
```

LEFT ELBOW AVULSION SEVERITY

```
VARIABLE NUMBER 104
SYMBOL   FREQUENCY
BLANK      916
```

LEFT ELBOW HEMORRHAGE SEVERITY

```
VARIABLE NUMBER 105
SYMBOL   FREQUENCY
BLANK      916
```

LEFT ELBOW BURN SEVERITY

```
VARIABLE NUMBER 106
SYMBOL   FREQUENCY
BLANK      916
```

LEFT ELBOW COMPLAINTS OF PAIN SEVERITY

```
VARIABLE NUMBER 107
SYMBOL   FREQUENCY
  1          3
BLANK      913
```

LEFT ELBOW OTHER SEVERITY

```
VARIABLE NUMBER 108
SYMBOL   FREQUENCY
  1          2
BLANK      914
```

LEFT FOREARM OCCUPANT NUMBER

```
VARIABLE NUMBER 109
SYMBOL   FREQUENCY
  0        866
  1         34
  2          2
  3         12
  4          1
  6          1
```

LEFT FOREARM CONTACT AREAS

```
VARIABLE NUMBER 110
SYMBOL   FREQUENCY
  0       3626
  5          8
  9          8
 12          1
```

FT FOREARM CONTACT AREAS

```
VARIABLE NUMBER 111
SYMBOL   FREQUENCY
 13          1
 19          1
 20          6
 21          1
```

LEFT FOREARM CONTACT AREAS

```
VARIABLE NUMBER 112
SYMBOL   FREQUENCY
 22          1
 25          1
 28          1
 32          1
```

LEFT FOREARM CONTACT AREAS

```
VARIABLE NUMBER 113
SYMBOL   FREQUENCY
 36          1
 37          3
 38          2
```

LEFT FOREARM OVERALL INJ. TO REGION

```
VARIABLE NUMBER 114
SYMBOL   FREQUENCY
  1         37
  2          7
  3          2
  4          4
BLANK      866
```

LEFT FOREARM CONCUSSION SEVERITY

```
VARIABLE NUMBER 115
SYMBOL   FREQUENCY
BLANK      916
```

LEFT FOREARM LACERATION SEVERITY

```
VARIABLE NUMBER 116
SYMBOL   FREQUENCY
  1          8
  2          3
  3          1
  4          1
BLANK      903
```

LEFT FOREARM ABRASION SEVERITY

```
VARIABLE NUMBER 117
SYMBOL   FREQUENCY
  1          9
  2          1
  4          1
BLANK      905
```

LEFT FOREARM BRUISE SEVERITY

```
VARIABLE NUMBER 118
SYMBOL   FREQUENCY
  1         21
  2          1
BLANK      894
```

LEFT FOREARM SPRAIN/STRAIN SEVERITY

```
VARIABLE NUMBER 119
SYMBOL   FREQUENCY
BLANK      916
```

LEFT FOREARM FRACTURE SEVERITY

```
VARIABLE NUMBER 120
SYMBOL   FREQUENCY
  2          4
  3          2
  4          3
BLANK      907
```

LEFT FOREARM DISLOCATION SEVERITY

```
VARIABLE NUMBER 121
SYMBOL   FREQUENCY
BLANK      916
```

LEFT FOREARM AVULSION SEVERITY

```
VARIABLE NUMBER 122
SYMBOL   FREQUENCY
BLANK      916
```

LEFT FOREARM HEMORRHAGE SEVERITY

```
VARIABLE NUMBER 123
SYMBOL   FREQUENCY
BLANK      916
```

LEFT FOREARM BURN SEVERITY

```
VARIABLE NUMBER 124
SYMBOL   FREQUENCY
BLANK      916
```

LEFT FOREARM COMPLAINTS OF PAIN SEVERITY

```
VARIABLE NUMBER 125
SYMBOL   FREQUENCY
  1          1
BLANK      915
```

LEFT FOREARM OTHER SEVERITY

```
VARIABLE NUMBER 126
SYMBOL   FREQUENCY
  1          2
BLANK      914
```

LEFT WRIST, HAND OCCUPANT NUMBER

```
VARIABLE NUMBER 127
SYMBOL   FREQUENCY
  0        845
  1         38
  2          4
  3         20
  4          2
  5          1
  6          6
```

LEFT WRIST, HAND CONTACT AREAS

```
VARIABLE NUMBER 128
SYMBOL   FREQUENCY
  0       3603
  2          2
  5         14
  6          2
```

LEFT WRIST, HAND CONTACT AREAS

```
VARIABLE NUMBER 129
SYMBOL   FREQUENCY
  9         11
 12          9
 20          4
 22          8
```

LEFT WRIST, HAND CONTACT AREAS

```
VARIABLE NUMBER 130
SYMBOL   FREQUENCY
 23          1
 32          1
 34          1
 36          2
```

LEFT WRIST, HAND CONTACT AREAS

```
VARIABLE NUMBER 131
SYMBOL   FREQUENCY
 37          2
 38          3
 39          1
```

LEFT WRIST, HAND OVERALL INJ. TO REGION

```
VARIABLE NUMBER 132
SYMBOL   FREQUENCY
  1         58
  2          9
  3          2
  4          1
BLANK      846
```

LEFT WRIST, HAND CONCUSSION SEVERITY

```
VARIABLE NUMBER 133
SYMBOL   FREQUENCY
BLANK      916
```

LEFT WRIST, HAND LACERATION SEVERITY

```
VARIABLE NUMBER 134
SYMBOL   FREQUENCY
  1         25
  2          4
  4          1
BLANK      886
```

LEFT WRIST, HAND ABRASION SEVERITY

```
VARIABLE NUMBER 135
SYMBOL   FREQUENCY
  1         16
  4          1
BLANK      899
```

LEFT WRIST, HAND BRUISE SEVERITY

```
VARIABLE NUMBER 136
SYMBOL   FREQUENCY
  1         11
BLANK      905
```

LEFT WRIST, HAND SPRAIN/STRAIN SEVERITY

```
VARIABLE NUMBER 137
SYMBOL   FREQUENCY
  1          4
BLANK      912
```

LEFT WRIST, HAND FRACTURE SEVERITY

```
VARIABLE NUMBER 138
SYMBOL   FREQUENCY
  1          1
  2          4
  3          1
BLANK      910
```

LEFT WRIST, HAND DISLOCATION SEVERITY

```
VARIABLE NUMBER 139
SYMBOL   FREQUENCY
  2          1
  3          1
BLANK      914
```

LEFT WRIST, HAND AVULSION SEVERITY

```
VARIABLE NUMBER 140
SYMBOL   FREQUENCY
  2          1
BLANK      915
```

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```
    LEFT WRIST, HAND          LEFT WRIST, HAND             LEFT WRIST, HAND            LEFT WRIST, HAND              PELVIS
  HEMORRHAGE SEVERITY          BURN SEVERITY        COMPLAINTS OF PAIN SEVERITY      OTHER SEVERITY          OCCUPANT NUMBER
*  VARIABLE NUMBER 141 **  VARIABLE NUMBER 142 **  VARIABLE NUMBER 143 **  VARIABLE NUMBER 144 **  VARIABLE NUMBER 145 *
*----------------------**----------------------**----------------------**----------------------**----------------------*
* SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY *

*  BLANK       916     **  BLANK       916     **      1         4     **      1         7     **      0       839     *
*                      **                      **  BLANK       912     **  BLANK       909     **      1        47     *
*                      **                      **                      **                      **      2         4     *
*                      **                      **                      **                      **      3        21     *
*                      **                      **                      **                      **      4         2     *
*                      **                      **                      **                      **      6         3     *

        PELVIS                    PELVIS                    PELVIS                   PELVIS                  PELVIS
     CONTACT AREAS            CONTACT AREAS             CONTACT AREAS            CONTACT AREAS        OVERALL INJ. TO REGION
*  VARIABLE NUMBER 146 **  VARIABLE NUMBER 147 **  VARIABLE NUMBER 148 **  VARIABLE NUMBER 149 **  VARIABLE NUMBER 150 *
*----------------------**----------------------**----------------------**----------------------**----------------------*
* SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY *

*      0      3584     **      9        15     **     21         1     **     36         4     **      1        39     *
*      2         1     **     13         6     **     29         1     **     37         4     **      2        11     *
*      3         1     **     19         1     **     33         1     **     38         3     **      3        13     *
*      5        10     **     20        20     **     34        10     **     40         1     **      4         5     *
*      8         1     **                      **                      **                      **      5         2     *
*                      **                      **                      **                      **      6         1     *
*                      **                      **                      **                      **      9         6     *
*                      **                      **                      **                      **  BLANK       839     *
*                      **                      **                      **                      **                      *
*                      **                      **                      **                      **                      *

        PELVIS                    PELVIS                    PELVIS                   PELVIS                  PELVIS
  CONCUSSION SEVERITY      LACERATION SEVERITY       ABRASION SEVERITY         BRUISE SEVERITY     SPRAIN/STRAIN SEVERITY
*  VARIABLE NUMBER 151 **  VARIABLE NUMBER 152 **  VARIABLE NUMBER 153 **  VARIABLE NUMBER 154 **  VARIABLE NUMBER 155 *
*----------------------**----------------------**----------------------**----------------------**----------------------*
* SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY *

*  BLANK       916     **      1         3     **      1         5     **      1        28     **  BLANK       916     *
*                      **      2         2     **  BLANK       911     **      2         3     **                      *
*                      **      4         1     **                      **      4         1     **                      *
*                      **  BLANK       910     **                      **  BLANK       884     **                      *

        PELVIS                    PELVIS                    PELVIS                   PELVIS                  PELVIS
   FRACTURE SEVERITY      DISLOCATION SEVERITY       AVULSION SEVERITY      HEMORRHAGE SEVERITY         BURN SEVERITY
*  VARIABLE NUMBER 156 **  VARIABLE NUMBER 157 **  VARIABLE NUMBER 158 **  VARIABLE NUMBER 159 **  VARIABLE NUMBER 160 *
*----------------------**----------------------**----------------------**----------------------**----------------------*
* SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY *

*      2         6     **      3         2     **  BLANK       916     **      1         2     **  BLANK       916     *
*      3        11     **  BLANK       914     **                      **  BLANK       914     **                      *
*      4         5     **                      **                      **                      **                      *
*      5         2     **                      **                      **                      **                      *
*      9         4     **                      **                      **                      **                      *
*  BLANK       888     **                      **                      **                      **                      *

         PELVIS                    PELVIS           RIGHT HIP AND THIGH      RIGHT HIP AND THIGH     RIGHT HIP AND THIGH
COMPLAINTS OF PAIN SEVERITY   OTHER SEVERITY          OCCUPANT NUMBER          CONTACT AREAS            CONTACT AREAS
*  VARIABLE NUMBER 161 **  VARIABLE NUMBER 162 **  VARIABLE NUMBER 163 **  VARIABLE NUMBER 164 **  VARIABLE NUMBER 165 *
*----------------------**----------------------**----------------------**----------------------**----------------------*
* SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY *

*      1         7     **      9         1     **      0       842     **      0      3592     **     11         2     *
*      4         1     **  BLANK       915     **      1        39     **      2         2     **     14         1     *
*  BLANK       908     **                      **      2         1     **      4         1     **     15         1     *
*                      **                      **      3        29     **      5        20     **     20        10     *
*                      **                      **      4         1     **      9         7     **     21         4     *
*                      **                      **      6         4     **                      **                      *
*                      **                      **                      **                      **                      *
*                      **                      **                      **                      **                      *
*                      **                      **                      **                      **                      *
*                      **                      **                      **                      **                      *

  RIGHT HIP AND THIGH      RIGHT HIP AND THIGH      RIGHT HIP AND THIGH      RIGHT HIP AND THIGH     RIGHT HIP AND THIGH
     CONTACT AREAS            CONTACT AREAS        OVERALL INJ. TO REGION   CONCUSSION SEVERITY     LACERATION SEVERITY
*  VARIABLE NUMBER 166 **  VARIABLE NUMBER 167 **  VARIABLE NUMBER 168 **  VARIABLE NUMBER 169 **  VARIABLE NUMBER 170 *
*----------------------**----------------------**----------------------**----------------------**----------------------*
* SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY *

*     27         1     **     36         3     **      1        45     **  BLANK       916     **      1         5     *
*     28         1     **     37         4     **      2         8     **                      **      2         3     *
*     29         5     **     38         4     **      3        10     **                      **      3         1     *
*     32         1     **     40         1     **      4         7     **                      **      4         1     *
*     34         4     **                      **      9         4     **                      **  BLANK       906     *
*                      **                      **  BLANK       842     **                      **                      *

  RIGHT HIP AND THIGH      RIGHT HIP AND THIGH      RIGHT HIP AND THIGH      RIGHT HIP AND THIGH     RIGHT HIP AND THIGH
   ABRASION SEVERITY         BRUISE SEVERITY      SPRAIN/STRAIN SEVERITY     FRACTURE SEVERITY     DISLOCATION SEVERITY
*  VARIABLE NUMBER 171 **  VARIABLE NUMBER 172 **  VARIABLE NUMBER 173 **  VARIABLE NUMBER 174 **  VARIABLE NUMBER 175 *
*----------------------**----------------------**----------------------**----------------------**----------------------*
* SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY *

*      1         7     **      1        29     **  BLANK       916     **      2         5     **      3         2     *
*      2         1     **      2         2     **                      **      3         8     **      4         1     *
*      4         1     **  BLANK       885     **                      **      4         6     **  BLANK       913     *
*  BLANK       907     **                      **                      **      9         3     **                      *
*                      **                      **                      **  BLANK       894     **                      *

  RIGHT HIP AND THIGH      RIGHT HIP AND THIGH      RIGHT HIP AND THIGH      RIGHT HIP AND THIGH     RIGHT HIP AND THIGH
   AVULSION SEVERITY      HEMORRHAGE SEVERITY         BURN SEVERITY    COMPLAINTS OF PAIN SEVERITY   OTHER SEVERITY
*  VARIABLE NUMBER 176 **  VARIABLE NUMBER 177 **  VARIABLE NUMBER 178 **  VARIABLE NUMBER 179 **  VARIABLE NUMBER 180 *
*----------------------**----------------------**----------------------**----------------------**----------------------*
* SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY ** SYMBOL     FREQUENCY *

*  BLANK       916     **      1         1     **  BLANK       916     **      1         5     **  BLANK       916     *
*                      **  BLANK       915     **                      **  BLANK       911     **                      *
```

RIGHT KNEE OCCUPANT NUMBER
VARIABLE NUMBER 181

SYMBOL	FREQUENCY
0	766
1	88
2	5
3	46
4	5
5	1
6	5

RIGHT KNEE CONTACT AREAS
VARIABLE NUMBER 182

SYMBOL	FREQUENCY
0	3517
1	1
2	12
3	11
4	3
5	66

RIGHT KNEE CONTACT AREAS
VARIABLE NUMBER 183

SYMBOL	FREQUENCY
7	3
8	1
9	12
11	2
12	1

RIGHT KNEE CONTACT AREAS
VARIABLE NUMBER 184

SYMBOL	FREQUENCY
13	2
20	7
21	1
27	3
28	2

RIGHT KNEE CONTACT AREAS
VARIABLE NUMBER 185

SYMBOL	FREQUENCY
29	7
36	3
37	2
38	6
40	2

RIGHT KNEE OVERALL INJ. TO REGION
VARIABLE NUMBER 186

SYMBOL	FREQUENCY
1	115
2	23
3	7
4	3
9	1
BLANK	767

RIGHT KNEE CONCUSSION SEVERITY
VARIABLE NUMBER 187

SYMBOL	FREQUENCY
BLANK	916

RIGHT KNEE LACERATION SEVERITY
VARIABLE NUMBER 188

SYMBOL	FREQUENCY
1	32
2	6
3	2
4	1
BLANK	875

RIGHT KNEE ABRASION SEVERITY
VARIABLE NUMBER 189

SYMBOL	FREQUENCY
1	40
2	4
4	1
BLANK	871

RIGHT KNEE BRUISE SEVERITY
VARIABLE NUMBER 190

SYMBOL	FREQUENCY
1	55
2	2
BLANK	859

RIGHT KNEE SPRAIN/STRAIN SEVERITY
VARIABLE NUMBER 191

SYMBOL	FREQUENCY
2	1
4	1
BLANK	914

RIGHT KNEE FRACTURE SEVERITY
VARIABLE NUMBER 192

SYMBOL	FREQUENCY
2	11
3	5
4	2
BLANK	898

RIGHT KNEE DISLOCATION SEVERITY
VARIABLE NUMBER 193

SYMBOL	FREQUENCY
2	1
3	2
BLANK	913

RIGHT KNEE AVULSION SEVERITY
VARIABLE NUMBER 194

SYMBOL	FREQUENCY
3	1
BLANK	915

RIGHT KNEE HEMORRHAGE SEVERITY
VARIABLE NUMBER 195

SYMBOL	FREQUENCY
1	1
2	1
BLANK	914

RIGHT KNEE BURN SEVERITY
VARIABLE NUMBER 196

SYMBOL	FREQUENCY
2	1
BLANK	915

RIGHT KNEE COMPLAINTS OF PAIN SEVERITY
VARIABLE NUMBER 197

SYMBOL	FREQUENCY
1	10
BLANK	906

RIGHT KNEE OTHER SEVERITY
VARIABLE NUMBER 198

SYMBOL	FREQUENCY
1	3
2	1
3	1
BLANK	911

RIGHT LEG OCCUPANT NUMBER
VARIABLE NUMBER 199

SYMBOL	FREQUENCY
0	804
1	57
2	5
3	35
4	7
6	8

RIGHT LEG CONTACT AREAS
VARIABLE NUMBER 200

SYMBOL	FREQUENCY
0	3552
1	3
2	6
3	4
4	2
5	40

RIGHT LEG CONTACT AREAS
VARIABLE NUMBER 201

SYMBOL	FREQUENCY
6	1
7	1
8	2
9	5
11	3
13	2

RIGHT LEG CONTACT AREAS
VARIABLE NUMBER 202

SYMBOL	FREQUENCY
18	1
20	4
21	1
25	1
27	3
28	2

RIGHT LEG CONTACT AREAS
VARIABLE NUMBER 203

SYMBOL	FREQUENCY
29	14
30	1
36	1
37	3
38	10
40	2

RIGHT LEG OVERALL INJ. TO REGION
VARIABLE NUMBER 204

SYMBOL	FREQUENCY
1	90
2	10
3	4
4	6
9	2
BLANK	804

RIGHT LEG CONCUSSION SEVERITY
VARIABLE NUMBER 205

SYMBOL	FREQUENCY
BLANK	916

RIGHT LEG LACERATION SEVERITY
VARIABLE NUMBER 206

SYMBOL	FREQUENCY
1	19
2	5
3	2
4	1
BLANK	889

RIGHT LEG ABRASION SEVERITY
VARIABLE NUMBER 207

SYMBOL	FREQUENCY
1	24
2	4
4	1
BLANK	887

RIGHT LEG BRUISE SEVERITY
VARIABLE NUMBER 208

SYMBOL	FREQUENCY
1	57
2	2
BLANK	857

RIGHT LEG SPRAIN/STRAIN SEVERITY
VARIABLE NUMBER 209

SYMBOL	FREQUENCY
1	1
BLANK	915

RIGHT LEG FRACTURE SEVERITY
VARIABLE NUMBER 210

SYMBOL	FREQUENCY
2	4
3	2
4	5
9	1
BLANK	904

RIGHT LEG DISLOCATION SEVERITY
VARIABLE NUMBER 211

SYMBOL	FREQUENCY
4	1
BLANK	915

RIGHT LEG AVULSION SEVERITY
VARIABLE NUMBER 212

SYMBOL	FREQUENCY
4	1
BLANK	915

RIGHT LEG HEMORRHAGE SEVERITY
VARIABLE NUMBER 213

SYMBOL	FREQUENCY
BLANK	916

RIGHT LEG BURN SEVERITY
VARIABLE NUMBER 214

SYMBOL	FREQUENCY
1	1
2	1
BLANK	914

RIGHT LEG COMPLAINTS OF PAIN SEVERITY
VARIABLE NUMBER 215

SYMBOL	FREQUENCY
1	2
BLANK	914

RIGHT LEG OTHER SEVERITY
VARIABLE NUMBER 216

SYMBOL	FREQUENCY
1	3
BLANK	913

RIGHT ANKLE, FOOT OCCUPANT NUMBER
VARIABLE NUMBER 217

SYMBOL	FREQUENCY
0	876
1	22
2	2
3	12
4	1
5	1
6	2

RIGHT ANKLE, FOOT CONTACT AREAS
VARIABLE NUMBER 218

SYMBOL	FREQUENCY
0	3629
4	1
5	6
9	1

RIGHT ANKLE, FOOT CONTACT AREAS
VARIABLE NUMBER 219

SYMBOL	FREQUENCY
12	1
20	2
27	1

RIGHT ANKLE, FOOT CONTACT AREAS
VARIABLE NUMBER 220

SYMBOL	FREQUENCY
28	7
29	3
30	1
32	1

RIGHT ANKLE, FOOT
CONTACT AREAS

```
VARIABLE NUMBER 221
SYMBOL  FREQUENCY
  37       3
  38       3
  40       5
```

RIGHT ANKLE, FOOT
OVERALL INJ. TO REGION

```
VARIABLE NUMBER 222
SYMBOL  FREQUENCY
   1      18
   2      12
   3       3
   4       5
   9       2
 BLANK   876
```

RIGHT ANKLE, FOOT
CONCUSSION SEVERITY

```
VARIABLE NUMBER 223
SYMBOL  FREQUENCY
 BLANK   916
```

RIGHT ANKLE, FOOT
LACERATION SEVERITY

```
VARIABLE NUMBER 224
SYMBOL  FREQUENCY
   1       4
   2       3
   4       1
 BLANK   908
```

RIGHT ANKLE, FOOT
ABRASION SEVERITY

```
VARIABLE NUMBER 225
SYMBOL  FREQUENCY
   1       7
   2       2
   4       1
 BLANK   906
```

RIGHT ANKLE, FOOT
BRUISE SEVERITY

```
VARIABLE NUMBER 226
SYMBOL  FREQUENCY
   1       8
   2       3
 BLANK   905
```

RIGHT ANKLE, FOOT
SPRAIN/STRAIN SEVERITY

```
VARIABLE NUMBER 227
SYMBOL  FREQUENCY
   1       1
   2       2
   4       1
 BLANK   912
```

RIGHT ANKLE, FOOT
FRACTURE SEVERITY

```
VARIABLE NUMBER 228
SYMBOL  FREQUENCY
   2       7
   3       3
   4       3
   9       1
 BLANK   902
```

RIGHT ANKLE, FOOT
DISLOCATION SEVERITY

```
VARIABLE NUMBER 229
SYMBOL  FREQUENCY
   3       1
   4       1
 BLANK   914
```

RIGHT ANKLE, FOOT
AVULSION SEVERITY

```
VARIABLE NUMBER 230
SYMBOL  FREQUENCY
   4       1
 BLANK   915
```

RIGHT ANKLE, FOOT
HEMORRHAGE SEVERITY

```
VARIABLE NUMBER 231
SYMBOL  FREQUENCY
   1       1
 BLANK   915
```

RIGHT ANKLE, FOOT
BURN SEVERITY

```
VARIABLE NUMBER 232
SYMBOL  FREQUENCY
 BLANK   916
```

RIGHT ANKLE, FOOT
COMPLAINTS OF PAIN SEVERITY

```
VARIABLE NUMBER 233
SYMBOL  FREQUENCY
   1       1
 BLANK   915
```

RIGHT ANKLE, FOOT
OTHER SEVERITY

```
VARIABLE NUMBER 234
SYMBOL  FREQUENCY
   1       1
 BLANK   915
```

LEFT HIP AND THIGH
OCCUPANT NUMBER

```
VARIABLE NUMBER 235
SYMBOL  FREQUENCY
   0     848
   1      42
   2       1
   3      19
   4       2
   6       3
   7       1
```

LEFT HIP AND THIGH
CONTACT AREAS

```
VARIABLE NUMBER 236
SYMBOL  FREQUENCY
   0    3660
   2       3
   3       2
   4       1
   5      18
```

LEFT HIP AND THIGH
CONTACT AREAS

```
VARIABLE NUMBER 237
SYMBOL  FREQUENCY
   7       1
   9       8
  11       4
  13       3
  19       1
```

LEFT HIP AND THIGH
CONTACT AREAS

```
VARIABLE NUMBER 238
SYMBOL  FREQUENCY
  20       8
  21       1
  27       2
  28       1
  29       1
```

LEFT HIP AND THIGH
CONTACT AREAS

```
VARIABLE NUMBER 239
SYMBOL  FREQUENCY
  33       1
  34       2
  36       4
  38       3
```

LEFT HIP AND THIGH
OVERALL INJ. TO REGION

```
VARIABLE NUMBER 240
SYMBOL  FREQUENCY
   1      44
   2       7
   3       8
   4       6
   9       3
 BLANK   848
```

LEFT HIP AND THIGH
CONCUSSION SEVERITY

```
VARIABLE NUMBER 241
SYMBOL  FREQUENCY
 BLANK   916
```

LEFT HIP AND THIGH
LACERATION SEVERITY

```
VARIABLE NUMBER 242
SYMBOL  FREQUENCY
   1       7
   2       3
   3       2
   4       1
 BLANK   903
```

LEFT HIP AND THIGH
ABRASION SEVERITY

```
VARIABLE NUMBER 243
SYMBOL  FREQUENCY
   1       9
   4       1
 BLANK   906
```

LEFT HIP AND THIGH
BRUISE SEVERITY

```
VARIABLE NUMBER 244
SYMBOL  FREQUENCY
   1      31
   2       1
   4       1
 BLANK   883
```

LEFT HIP AND THIGH
SPRAIN/STRAIN SEVERITY

```
VARIABLE NUMBER 245
SYMBOL  FREQUENCY
 BLANK   916
```

LEFT HIP AND THIGH
FRACTURE SEVERITY

```
VARIABLE NUMBER 246
SYMBOL  FREQUENCY
   2       3
   3       4
   4       5
   9       1
 BLANK   903
```

LEFT HIP AND THIGH
DISLOCATION SEVERITY

```
VARIABLE NUMBER 247
SYMBOL  FREQUENCY
   3       3
 BLANK   913
```

LEFT HIP AND THIGH
AVULSION SEVERITY

```
VARIABLE NUMBER 248
SYMBOL  FREQUENCY
   4       1
 BLANK   915
```

LEFT HIP AND THIGH
HEMORRHAGE SEVERITY

```
VARIABLE NUMBER 249
SYMBOL  FREQUENCY
 BLANK   916
```

LEFT HIP AND THIGH
BURN SEVERITY

```
VARIABLE NUMBER 250
SYMBOL  FREQUENCY
 BLANK   916
```

LEFT HIP AND THIGH
COMPLAINTS OF PAIN SEVERITY

```
VARIABLE NUMBER 251
SYMBOL  FREQUENCY
   1       3
 BLANK   913
```

LEFT HIP AND THIGH
OTHER SEVERITY

```
VARIABLE NUMBER 252
SYMBOL  FREQUENCY
   1       1
   4       1
 BLANK   914
```

LEFT KNEE
OCCUPANT NUMBER

```
VARIABLE NUMBER 253
SYMBOL  FREQUENCY
   0     762
   1      90
   2       5
   3      48
   4       2
   5       1
   6       8
```

LEFT KNEE
CONTACT AREAS

```
VARIABLE NUMBER 254
SYMBOL  FREQUENCY
   0    3513
   1       2
   2      11
   3      20
   4       2
   5      64
```

LEFT KNEE
CONTACT AREAS

```
VARIABLE NUMBER 255
SYMBOL  FREQUENCY
   6       1
   7       5
   8       2
   9       6
  11       4
  14       3
```

```
       LEFT KNEE                  LEFT KNEE                  LEFT KNEE                   LEFT KNEE                   LEFT KNEE
     CONTACT AREAS              CONTACT AREAS         OVERALL INJ. TO REGION      CONCUSSION SEVERITY        LACERATION SEVERITY
*  VARIABLE NUMBER  256  **  VARIABLE NUMBER  257  **  VARIABLE NUMBER  258  **  VARIABLE NUMBER  259  **  VARIABLE NUMBER  260  *
*----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   *
*                                                                                                                          
*     19        1       **     29        5       **      1       127      **      1         3      **      1        33      *
*     20        7       **     36        2       **      2        16      **    BLANK     913      **      2        12      *
*     21        3       **     37        1       **      3         4      **                       **      3         1      *
*     22        1       **     38        6       **      4         2      **                       **      4         1      *
*     27        2       **     40        1       **    BLANK     767      **                       **    BLANK     869      *
*     28        2       **                       **                       **                       **                       *
*                       **                       **                       **                       **                       *
*                       **                       **                       **                       **                       *

       LEFT KNEE                  LEFT KNEE                  LEFT KNEE                   LEFT KNEE                   LEFT KNEE
   ABRASION SEVERITY           BRUISE SEVERITY       SPRAIN/STRAIN SEVERITY        FRACTURE SEVERITY         DISLOCATION SEVERITY
*  VARIABLE NUMBER  261  **  VARIABLE NUMBER  262  **  VARIABLE NUMBER  263  **  VARIABLE NUMBER  264  **  VARIABLE NUMBER  265  *
*----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   *

*      1        37      **      1        68      **      1         2      **      2         1      **    BLANK     916      *
*      2         4      **      2         2      **      2         1      **      3         2      **                       *
*      4         1      **    BLANK     846      **    BLANK     913      **      4         1      **                       *
*    BLANK     874      **                       **                       **    BLANK     912      **                       *

       LEFT KNEE                  LEFT KNEE                  LEFT KNEE                   LEFT KNEE                   LEFT KNEE
   AVULSION SEVERITY         HEMORRHAGE SEVERITY          BURN SEVERITY      COMPLAINTS OF PAIN SEVERITY    OTHER SEVERITY
*  VARIABLE NUMBER  266  **  VARIABLE NUMBER  267  **  VARIABLE NUMBER  268  **  VARIABLE NUMBER  269  **  VARIABLE NUMBER  270  *
*----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   *

*      2         1      **      3         1      **      2         1      **      1         8      **    BLANK     916      *
*    BLANK     915      **    BLANK     915      **    BLANK     915      **    BLANK     908      **                       *

       LEFT LEG                   LEFT LEG                   LEFT LEG                    LEFT LEG                    LEFT LEG
   OCCUPANT NUMBER             CONTACT AREAS              CONTACT AREAS               CONTACT AREAS               CONTACT AREAS
*  VARIABLE NUMBER  271  **  VARIABLE NUMBER  272  **  VARIABLE NUMBER  273  **  VARIABLE NUMBER  274  **  VARIABLE NUMBER  275  *
*----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   *

*      0       810      **      0      3561      **      6         1      **     21         1      **     33         1      *
*      1        55      **      1         1      **      7         3      **     25         1      **     36         1      *
*      2         5      **      2         7      **      9         5      **     27         2      **     37         1      *
*      3        33      **      3         3      **     11         2      **     28         4      **     38         9      *
*      4         6      **      4         2      **     13         1      **     29        12      **     39         1      *
*      6         7      **      5        37      **     20         3      **     30         1      **     40         1      *
*                       **                       **                       **                       **                       *
*                       **                       **                       **                       **                       *
*                       **                       **                       **                       **                       *
*                       **                       **                       **                       **                       *

       LEFT LEG                   LEFT LEG                   LEFT LEG                    LEFT LEG                    LEFT LEG
OVERALL INJ. TO REGION       CONCUSSION SEVERITY       LACERATION SEVERITY          ABRASION SEVERITY            BRUISE SEVERITY
*  VARIABLE NUMBER  276  **  VARIABLE NUMBER  277  **  VARIABLE NUMBER  278  **  VARIABLE NUMBER  279  **  VARIABLE NUMBER  280  *
*----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   *

*      1        85      **    BLANK     916      **      1        20      **      1        27      **      1        47      *
*      2        12      **                       **      2         6      **      2         3      **      2         3      *
*      3         4      **                       **      3         1      **      4         1      **    BLANK     866      *
*      4         2      **                       **      4         1      **    BLANK     885      **                       *
*      6         1      **                       **    BLANK     888      **                       **                       *
*      9         2      **                       **                       **                       **                       *
*    BLANK     810      **                       **                       **                       **                       *

       LEFT LEG                   LEFT LEG                   LEFT LEG                    LEFT LEG                    LEFT LEG
SPRAIN/STRAIN SEVERITY        FRACTURE SEVERITY       DISLOCATION SEVERITY         AVULSION SEVERITY         HEMORRHAGE SEVERITY
*  VARIABLE NUMBER  281  **  VARIABLE NUMBER  282  **  VARIABLE NUMBER  283  **  VARIABLE NUMBER  284  **  VARIABLE NUMBER  285  *
*----------------------**-----------------------**-----------------------**-----------------------**-----------------------*
*   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   *

*    BLANK     916      **      2         4      **    BLANK     916      **    BLANK     916      **    BLANK     916      *
*                       **      3         3      **                       **                       **                       *
*                       **      4         1      **                       **                       **                       *
*                       **      9         2      **                       **                       **                       *
*                       **    BLANK     906      **                       **                       **                       *

       LEFT LEG                   LEFT LEG                   LEFT LEG
     BURN SEVERITY      COMPLAINTS OF PAIN SEVERITY    OTHER SEVERITY
*  VARIABLE NUMBER  286  **  VARIABLE NUMBER  287  **  VARIABLE NUMBER  288  *
*----------------------**-----------------------**-----------------------*
*   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   **   SYMBOL  FREQUENCY   *

*      1         1      **      1         3      **      1         2      *
*      2         1      **    BLANK     913      **      4         1      *
*      6         1      **                       **    BLANK     913      *
*    BLANK     913      **                       **                       *

    END OF OUTPUT FOR PROBLEM CODE C28-43



FINISH CARD ENCOUNTERED, PROGRAM TERMINATED
```

```
BMD04D - ALPHANUMERIC FREQUENCY COUNT - VERSION OF  MAY  22, 1969
HEALTH SCIENCES COMPUTING FACILITY, UCLA
PROBLEM CODE C44-45
NUMBER OF OBSERVATIONS =   916


   LEFT ANKLE, FOOT            CONTACT AREAS               CONTACT AREAS               CONTACT AREAS               CONTACT AREAS
*  VARIABLE NUMBER    1  **  VARIABLE NUMBER    2  **  VARIABLE NUMBER    3  **  VARIABLE NUMBER    4  **  VARIABLE NUMBER    5  *
*------------------------**------------------------**------------------------**------------------------**------------------------*
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *
*                        **                        **                        **                        **                        *
*        0      872      **        0     3624      **       20        2      **       28       10      **       37        2      *
*        1       27      **        4        1      **       21        2      **       29        7      **       38        5      *
*        2        2      **        5        2      **       27        1      **       30        1      **       40        6      *
*        3        9      **       11        1      **                        **                        **                        *
*        4        3      **                        **                        **                        **                        *
*        5        1      **                        **                        **                        **                        *
*        6        1      **                        **                        **                        **                        *
*        7        1      **                        **                        **                        **                        *


   OVERALL INJURY
     TO REGION              CONCUSSION SEVERITY        LACERATION SEVERITY         ABRASION SEVERITY           BRUISE SEVERITY
*  VARIABLE NUMBER    6  **  VARIABLE NUMBER    7  **  VARIABLE NUMBER    8  **  VARIABLE NUMBER    9  **  VARIABLE NUMBER   10  *
*------------------------**------------------------**------------------------**------------------------**------------------------*
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *
*                        **                        **                        **                        **                        *
*        1       21      **    BLANK      916      **        1        4      **        1        5      **        1       10      *
*        2       13      **                        **        2        1      **        2        1      **        2        2      *
*        3        6      **                        **        3        2      **    BLANK      910      **        3        1      *
*        4        4      **                        **        4        1      **                        **    BLANK      903      *
*    BLANK      872      **                        **    BLANK      908      **                        **                        *


SPRAIN/STRAIN SEVERITY      FRACTURE SEVERITY          DISLOCATION SEVERITY        AVULSION SEVERITY           HEMORRHAGE SEVERITY
*  VARIABLE NUMBER   11  **  VARIABLE NUMBER   12  **  VARIABLE NUMBER   13  **  VARIABLE NUMBER   14  **  VARIABLE NUMBER   15  *
*------------------------**------------------------**------------------------**------------------------**------------------------*
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *
*                        **                        **                        **                        **                        *
*        1        5      **        1        1      **        3        3      **    BLANK      916      **    BLANK      916      *
*        2        6      **        2        5      **    BLANK      913      **                        **                        *
*    BLANK      905      **        3        4      **                        **                        **                        *
*                        **        4        3      **                        **                        **                        *
*                        **    BLANK      903      **                        **                        **                        *


                            COMPLAINTS OF PAIN
   BURN SEVERITY                 SEVERITY              OTHER SEVERITY                  OTHER                   CONTACT AREAS
*  VARIABLE NUMBER   16  **  VARIABLE NUMBER   17  **  VARIABLE NUMBER   18  **  VARIABLE NUMBER   19  **  VARIABLE NUMBER   20  *
*------------------------**------------------------**------------------------**------------------------**------------------------*
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *
*                        **                        **                        **                        **                        *
*        1        1      **        1        1      **        1        2      **        0      895      **        0     3659      *
*    BLANK      915      **    BLANK      915      **    BLANK      914      **        1       12      **                        *
*                        **                        **                        **        2        1      **                        *
*                        **                        **                        **        3        2      **                        *
*                        **                        **                        **        4        1      **                        *
*                        **                        **                        **        6        2      **                        *
*                        **                        **                        **        7        2      **                        *
*                        **                        **                        **        8        1      **                        *


                                                                                  OVERALL INJURY
   CONTACT AREAS               CONTACT AREAS               CONTACT AREAS             TO REGION             CONCUSSION SEVERITY
*  VARIABLE NUMBER   21  **  VARIABLE NUMBER   22  **  VARIABLE NUMBER   23  **  VARIABLE NUMBER   24  **  VARIABLE NUMBER   25  *
*------------------------**------------------------**------------------------**------------------------**------------------------*
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *
*                        **                        **                        **                        **                        *
*        5        1      **       38        5      **                        **        1        8      **    BLANK      916      *
*                        **                        **                        **        2        1      **                        *
*                        **                        **                        **        5        1      **                        *
*                        **                        **                        **        6        5      **                        *
*                        **                        **                        **        8        4      **                        *
*                        **                        **                        **        9        2      **                        *
*                        **                        **                        **    BLANK      895      **                        *


LACERATION SEVERITY         ABRASION SEVERITY          BRUISE SEVERITY           SPRAIN/STRAIN SEVERITY        FRACTURE SEVERITY
*  VARIABLE NUMBER   26  **  VARIABLE NUMBER   27  **  VARIABLE NUMBER   28  **  VARIABLE NUMBER   29  **  VARIABLE NUMBER   30  *
*------------------------**------------------------**------------------------**------------------------**------------------------*
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *
*                        **                        **                        **                        **                        *
*        1        2      **    BLANK      916      **        1        4      **    BLANK      916      **    BLANK      916      *
*    BLANK      914      **                        **    BLANK      912      **                        **                        *


                                                                                                           COMPLAINTS OF PAIN
DISLOCATION SEVERITY        AVULSION SEVERITY        HEMORRHAGE SEVERITY         BURN SEVERITY                   SEVERITY
*  VARIABLE NUMBER   31  **  VARIABLE NUMBER   32  **  VARIABLE NUMBER   33  **  VARIABLE NUMBER   34  **  VARIABLE NUMBER   35  *
*------------------------**------------------------**------------------------**------------------------**------------------------*
*   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    **   SYMBOL  FREQUENCY    *
*                        **                        **                        **                        **                        *
*    BLANK      916      **    BLANK      916      **    BLANK      916      **        6        4      **        1        2      *
*                        **                        **                        **    BLANK      912      **    BLANK      914      *


   OTHER SEVERITY
*  VARIABLE NUMBER   36  *
*------------------------*
*   SYMBOL  FREQUENCY    *
*                        *
*        6        1      *
*        8        4      *
*        9        5      *
*    BLANK      906      *

     END OF OUTPUT FOR PROBLEM CODE C44-45

FINISH CARD ENCOUNTERED, PROGRAM TERMINATED
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APPENDIX A

CODEBOOK (YELLOW CARF AND SUPPLEMENTAL EXPLANATORY CODES)

PILOT STUDY ON ROAD SAFETY

for Committee on the Challenges of Modern Society NATO

COLLISION ANALYSIS REPORT FORM

DECEMBER 1, 1971

This form may be used without acknowledgement

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Committee on the Challenges
of Modern Society

Road Safety

Accident Investigation Project

CCMS Report No. 26

Comite sur les Defis de
la Societe Modern

Securite Routiere

Project sur l'Enguete d'Accidents

CDSM Repport N. 26

U.S. DEPARTMENT OF TRANSPORTATION

National Highway
Traffic Safety
Administration

October 1973

OFFICE OF THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

This form is provided for use in a trial program which will test the feasibility and value of obtaining standardized vehicle crash damage and injury information. The program, which is part of the Road Safety Pilot Study under the auspices of the Committee on the Challenges of Modern Society, NATO, seeks to obtain better data than heretofore have been available on the degree of protection which a vehicle provides - or fails to provide - to its occupants in crashes. Such data can materially aid automotive designers in producing safer vehicles and Government engineers in assessing the effectiveness of regulatory standards.

This form was developed by Staff members of the National Highway Traffic Safety Administration of the U. S. Department of Transportation, and is a modification of the General Motors Collision Performance and Injury Report PG2070, copyright, 1969. While it appears to satisfy all requirements and hence will be used to start the trial program, it will be modified appropriately if the need for changes becomes apparent after actual use in the field.

John A. Volpe
Secretary of Transportation

CASE IDENTIFICATION

PLEASE PRINT LARGE ENOUGH TO COMPLETELY FILL SQUARES.

COUNTRY	TEAM NO.
ACCIDENT NO. (Case No.)	YEAR

FOREWORD

A model Collision Analysis Report Form was presented at a NATO/CCMS Road Safety Accident Study briefing at Wolfsburg, Germany on October 21 and 22, 1970. This briefing was attended by the CCMS Accident Study Coordinating Panel members, government officials, project leaders, and team members from participating countries. During a Multidisciplinary Accident Training Seminar held in the United States at Cornell Aeronautical Laboratory on April 12, 1971, this form was internationalized by project leaders and attendees from several participating countries. The restructured form was field tested by several teams both in Europe and North America as to format, content, structure, and functionality. The CCMS Accident Study Workshop held at Turin, Italy on June 30 - July 2, 1971, addressed project start-up problems as well as the revised form. Several modifications were suggested by members of each study team.

Comments and recommendations presented were evaluated by the accident investigation program directors and advisors. This edition of the Collision Analysis Report Form represents the substantive changes incorporated into this final format as a result of input from each cooperating study group. The form includes diagrams, data elements, and structural measurements reflecting recent design changes in automobiles operating withing the study universe. The report form has been restructured to better meet field needs, e.g. each side of the vehicle exterior is covered as a unit so that a field investigator need not move back and forth from side to side and front to back several times; rather he can move systematically about the vehicle to complete his investigation. The study program requires only those sections heavily outlined to be completed; however, the entire form may be filled out at the discretion of each study team. Recommendations for the feasibility of an international Accident Investigation System using an international reporting format will be based upon the field experiences with this NATO/CCMS Collision Analysis Report Form.

Eugene E. Flamboe
Eugene E. Flamboe, Ph.D.

Scott N Lee
Scott N. Lee

Jean-Paul deCoster, Jr., Chairman
Subcommittee on Project Operations

COLLISION ANALYSIS REPORT

GENERAL INSTRUCTIONS

There are eight basic types of questions asked. The following examples, based on a fictitious collision, illustrate how these questions should be answered.

Collision: *A two door hardtop with 3 occupants was involved in an accident on a dirt, country road in Alsace. The doors did not jam. The rear view mirror was not contacted by an occupant but was broken.*

EXAMPLES:

A. Enter the name of the state or municipality in the blank.

B. The Collision Location is an implied multiple choice "question". Since the answer "(4) rural area" best describes the area, enter a "4" on the blank in the "Punch Code" column. A "4" will later be punched in Column 20 of a computer card in response to your answer.

C. The correct answer for the example shown is not in the list, so write the word "dirt" in the blank after "(5) other:____________". Also enter "5" in the "Punch Code" column.

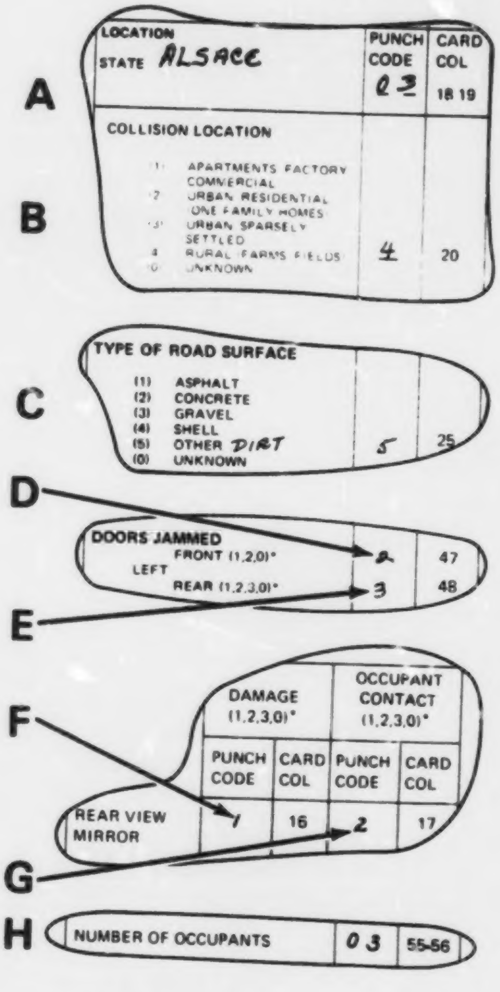
D. This type of question is written in a way that will save you time. (It could have been written, "Did the left front door jam?") The possible answers "(1,2,0)*" are given after the word "Front". The code key for (1,2,0) is given at the bottom of the page. Since "2" means "no", enter "2" in the answer blank because, according to our accident, the left front door did not jam.

E. Example E asks if the left rear door jammed. The code key for (1,2,3,0) is also given at the bottom of the page. Since this was a two door hardtop, "3" is chosen as the answer to indicate that the question is "not applicable".

F. & G. These examples pertain to the rear view mirror. The questions and possible answers are grouped together at the heads of the two answer columns. Example F asks if the rear view mirror was damaged. Since the mirror was broken, mark the blank in the "Damaged" column with a "1".

Example G asks if the rear view mirror was contacted by an occupant. Since there was apparently no occupant contact, enter "2" in the Occupant Contact column.

H. Example H offers no multiple choices. So enter the actual answer in the blank. Since there were 3 occupants, enter "03" in the blank. Notice that the answer is entered as far to the right as possible and the leading blanks are filled in with zeros.



LOCATION	PUNCH CODE	CARD COL
STATE ALSACE	0 3	18 19

COLLISION LOCATION		
(1) APARTMENTS FACTORY COMMERCIAL		
(2) URBAN RESIDENTIAL (ONE FAMILY HOMES)		
(3) URBAN SPARSELY SETTLED		
(4) RURAL (FARMS FIELDS)		
(0) UNKNOWN	4	20

TYPE OF ROAD SURFACE		
(1) ASPHALT		
(2) CONCRETE		
(3) GRAVEL		
(4) SHELL		
(5) OTHER DIRT	5	25
(0) UNKNOWN		

DOORS JAMMED		
LEFT FRONT (1,2,0)*	2	47
LEFT REAR (1,2,3,0)*	3	48

	DAMAGE (1,2,3,0)*		OCCUPANT CONTACT (1,2,3,0)*	
	PUNCH CODE	CARD COL	PUNCH CODE	CARD COL
REAR VIEW MIRROR	1	16	2	17

NUMBER OF OCCUPANTS	0 3	55-56

CODE OF COUNTRIES

(01)	Belgium
(02)	Canada
(03)	France
(04)	F.R.G.
(05)	Greece
(06)	Italy
(07)	Netherlands
(08)	Sweden
(09)	Turkey
(10)	U.K.
(11)	U.S.A.

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE
1 FOR YES
2 FOR NO
3 FOR NOT APPLICABLE
0 FOR UNKNOWN

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ADMINISTRATIVE

ADMINISTRATIVE

REPORT CODE NO.
_ √ | 1 _ | _ √2 _ | _ √3
1 2 | 3 4 | 5 6 7 | 8 9
COUNTRY | TEAM | CASE NO. | YEAR

CARD NUMBER — 0 √4 1
10 11

DATE OF COLLISION MO. √5 / DAY √6 / YEAR √7
12 13 / 14 15 / 16 17

DATE OF INVESTIGATION ____________

INVESTIGATOR ____________

CIRCLE PHOTO RECORDS MADE:
SLIDES: NEGATIVES: POLAROIDS

VEHICLE EVALUATION LOCATION
(Physical Location)
____

REPORT PREPARED BY ____________

KEYPUNCH:
DATE REC'D.

PUNCHED

VERIFIED

ENVIRONMENT

	PUNCH CODE	CARD COL.
LOCATION STATE OR MUNICIPALITY NAME ____________	- -	18-19
COLLISION LOCATION (1) APARTMENTS, FACTORY, COMMERCIAL (2) URBAN, RESIDENTIAL (ONE-FAMILY HOMES) (3) URBAN, SPARSELY SETTLED (4) RURAL (FARMS, FIELDS) (0) UNKNOWN	—	20
ENVIRONMENTAL CONDITIONS TYPE OF ROADWAY (01) AUTOBAHN/EXPRESSWAY MAINLINE (02) AUTOBAHN/EXPRESSWAY ENTRANCE (03) AUTOBAHN/EXPRESSWAY EXIT (04) AUTOBAHN/EXPRESSWAY FRONTAGE ROAD (05) MAJOR ARTERIAL (06) COLLECTOR (07) LOCAL (08) TEMPORARY (09) PARKING LOT (10) OTHER ____________ (00) UNKNOWN	- -	21-22
TOTAL ROAD LANE WIDTH (1) 1-LANE (2) 2-LANE (NOT DIVIDED) (3) 3-LANE (NOT DIVIDED) (4) 4-OR MORE LANES (NOT DIVIDED) (5) DIVIDED ROADWAY (6) PARKING LOT (7) OTHER ____________ (0) UNKNOWN	—	23
SPEED LIMIT (1) NONE (2) 5-25 KILOMETERS PER HR (3) 26-40 (4) 41-55 (5) 56-70 (6) 71-85 (7) 86-100 (8) 101-120 (9) OVER 120 (0) UNKNOWN	—	24
TYPE OF ROAD SURFACE (1) ASPHALT (2) CONCRETE (3) GRAVEL (4) SHELL (5) BLOCK (6) OTHER ____________ (0) UNKNOWN	—	25
SURFACE COVERING (01) DRY WATER (02) DAMP (03) WET (04) PUDDLED (05) UNKNOWN AMOUNT SNOW (06) LOOSE (07) PACKED (08) CONDITION UNKNOWN (09) ICE (10) SLUSH (11) SPILLED GRAVEL (12) OTHER ____________ (00) UNKNOWN	- -	26-27
ROAD DEFECTS (1) YES (2) NO (3) CONSTRUCTION (0) UNKNOWN	—	28
ROAD ALIGNMENT HORIZONTAL PLANE (1) STRAIGHT ROAD (2) CURVE (0) UNKNOWN	—	29
VERTICAL PLANE (1) LEVEL (2) CREST OF HILL (3) SLOPE % GRADE ____________ (4) BOTTOM OF HILL (0) UNKNOWN	—	30

	PUNCH CODE	CARD COL.
TRAFFIC CONTROL (1) STOP SIGN (2) STOP SIGNAL (RED LIGHT) (3) NOT APPLICABLE (4) OFFICER OR WATCHMAN (5) R.R. GATES OR SIGNALS (6) OTHER ______ (7) NO TRAFFIC CONTROL (0) UNKNOWN	—	31
TRAFFIC CONDITIONS (1) HEAVY SLOW (2) HEAVY FAST (3) MEDIUM (4) LIGHT (5) RECORDED FLOW: ______ (0) UNKNOWN	—	32
PRECIPITATION (1) NONE (2) RAIN (3) SNOW (4) HAIL (5) SLEET (6) OTHER ______ (0) UNKNOWN	—	33
RATE OF PRECIPITATION (1) LIGHT (2) MODERATE (3) HEAVY (4) NOT APPLICABLE (0) UNKNOWN	—	34
SURFACE SLIPPERY (1,2,0)	—	35
CROSSWIND (1) NONE (2) LIGHT (3) STRONG (4) STRONG AND GUSTY (0) UNKNOWN	—	36
TEMPERATURE, °CENTIGRADE (1) BELOW MINUS 30 (2) MINUS 29-20 (3) MINUS 19-MINUS 10 (4) MINUS 9-ZERO (5) 1-10 (6) 11-20 (7) 21-30 (8) 31-40 (9) ABOVE 40 (0) UNKNOWN	—	37
TIME OF DAY (1) DAY (2) NIGHT (3) DUSK (4) DAWN (0) UNKNOWN	—	38
TEMPORARY VISIBILITY LIMITATION (01) NONE (02) CLOUDY-DARK		

	PUNCH CODE	CARD COL.
(03) RAIN (04) FOG (05) SMOKE (06) WINDSHIELD CONDITION (07) GLARE (08) FALLING SNOW (09) OTHER: ______ (00) UNKNOWN	— —	39-40
PERMANENT VISIBILITY OBSTRUCTION (1) NONE (2) BUILDING (3) SIGN (4) MANY SIGNS (5) BUSHES (6) TREE (7) HILL OR CURVE IN ROAD (8) VEHICLE IN TRAFFIC OR PARKED (9) OTHER: ______ (0) UNKNOWN	—	41

COLLISION CONFIGURATION (Where 1,2,0 is indicated, use 1 for yes, 2 for no, 0 for unknown)		
VEHICLE TO OBJECT (1,2,0)	V8 —	42
ROLLOVER (1,2,0)	V9 —	43
RAN OFF THE ROADWAY (1,2,0)	V10 —	44
VEHICLE TO VEHICLE (2) NO (3) HEAD-ON (4) SIDE IMPACT (5) SIDE-SWIPE (6) REAR IMPACT (7) OTHER: ______	V11 —	45
VEHICLE TO STOPPED VEHICLE (1,2,0)	V12 —	46
VEHICLE TO MOVING VEHICLE (1,2,0)	V13 —	47
VEHICLE TO PEDESTRIAN (1,2,0)	V14 —	48
OTHER (1,2,0)	V15 —	49
VEHICLES INVOLVED TOTAL NUMBER (INCLUDING CASE VEHICLE)	V16 —	50

COLLISION CONFIGURATION

COLLISION DESCRIPTION

	PUNCH CODE	CARD COL.
OBJECTS CONTACTED ENTER OBJECTS IN ORDER OF CONTACT DURING COLLISION. (CHOOSE NO MORE THAN THREE) (02) NONE (03) OTHER AUTOMOBILE (04) GROUND (ROLLOVER ONLY) (05 GUARDRAIL (HEIGHT__________) (06) BRIDGE (07) SIGN (TYPE__________) (08) DITCH (GRADE__________) (09) EMBANKMENT (10) CULVERT (11) FENCE (12) POLE OR TREE (13) PEDESTRIAN (14) LARGE ANIMAL (15) MOTORCYCLE (16) LARGE TRUCK (17) TRAIN OR BUS (18) BICYCLE (19) BUILDING (20) LIGHT TRUCK (99) OTHER: __________ (00) UNKNOWN	V17 V18 V19	51-52 53-54 55-56
CASE VEHICLE DRIVER'S ABILITY TO DRIVE IMPAIRED BY (CHOOSE NO MORE THAN TWO) (02) NONE (03) DRINKING INVOLVED (04) DRUNK (05) ASLEEP (06) FATIGUE (07) RECKLESSNESS (08) INATTENTION (09) LACK OF TRAINING (10) EMOTIONAL STATE (11) MEDICATION (12) NARCOTICS (13) ILLNESS (14) INFIRMITIES (15) PHYSICALLY HANDICAPPED (16) OTHER: __________ (00) UNKNOWN SOURCE OF INFORMATION: ____	_ _ _ _	57-58 59-60
CONTRIBUTING FACTORS (NO MORE THAN TWO) (01) SPEED TOO FAST (02) FAILURE TO YIELD RIGHT OF WAY (03) DROVE LEFT OF CENTER		

	PUNCH CODE	CARD COL.
(04) IMPROPER OVERTAKING (05) PASSED STOP SIGN (06) DISREGARDED TRAFFIC SIGNAL (07) FOLLOWING TOO CLOSE (08) IMPROPER TURN (09) INADEQUATE BRAKES (10) IMPROPER LIGHTS (11) OTHER: __________ (12) VEHICLE UNFAMILIARITY (13) ROADWAY UNFAMILIARITY (14) NONE (00) UNKNOWN	_ _ _ _	61-62 63-64
VEHICLE ACCESSORY DISTRACTIONS: RADIO (2) NONE PRESENT (4) NOT IN USE (5) LOW VOLUME (6) MEDIUM VOLUME (7) HIGH VOLUME (0) UNKNOWN	—	65
OTHER AUDIO EQUIPMENT (2) NONE PRESENT (4) NOT IN USE (5) LOW VOLUME (6) MEDIUM VOLUME (7) HIGH VOLUME (0) UNKNOWN	—	66
REAR SPEAKER (2) NONE PRESENT (4) NOT IN USE (5) IN USE (0) UNKNOWN	—	67
HEATER TEMPERATURE SETTING (2) NONE PRESENT (4) NOT IN USE (5) LOW SETTING (6) MEDIUM SETTING (7) HIGH SETTING (0) UNKNOWN	—	68
AIR CONDITIONER TEMPERATURE SETTING (2) NONE PRESENT (4) NOT IN USE (5) LOW SETTING (6) MEDIUM SETTING (7) HIGH SETTING (0) UNKNOWN	—	69

POSSIBLE MECHANICAL MALFUNCTIONS

	PUNCH CODE	CARD COL.
PASSENGER DISTRACTION (1,2,3,0)	—	70
AMBIENT DISTRACTION (1,2,0)	—	71
LEGAL ACTION IN THIS CASE PERSON ISSUED TRAFFIC CITATION (CHOOSE NO MORE THAN TWO) (1) DRIVER OF CASE VEHICLE (2) DRIVER OF OTHER VEHICLE (3) PEDESTRIAN (4) OTHER ________ (5) NONE ISSUED (0) UNKNOWN	— —	72 73
CASE DRIVER'S RECORD DRIVER'S EDUCATION TAKEN (1) YES (2) NO (3) OTHER TRAINING (0) UNKNOWN	—	74
PREVIOUS MOVING VIOLATIONS (1) NONE (2) 1-2 (5) 3-5 (6) MORE THAN 5 (0) UNKNOWN	—	75
PREVIOUS COLLISIONS (1) NONE (2) 1-2 (3) 3-4 (4) MORE THAN 4 (0) UNKNOWN	—	76
PREVIOUS LICENSE SUSPENSIONS (1) NONE (2) 1-3 (3) MORE THAN 3 (4) UNKNOWN	—	77
TYPE OF LOSS (1) PERSONAL INJURY (2) PROPERTY DAMAGE (3) PERSONAL INJURY AND PROPERTY DAMAGE (0) UNKNOWN	V20 —	78

INVESTIGATION OF THE POSSIBILITY OF MECHANICAL MALFUNCTION

THIS SECTION SHOULD BE FILLED OUT IF A MECHANICAL MALFUNCTION IS RECOGNIZED, OR SUSPECTED BY THE INVESTIGATOR OR WAS ALLEGED TO HAVE CONTRIBUTED TO THE ACCIDENT INVOLVING THIS VEHICLE. SUPPORT ANY ITEMS CHECKED OR NOTATED BY COMMENTS.

CHECK ITEMS INVOLVED:

☐ BRAKE SYSTEM
☐ EXHAUST SYSTEM
☐ STEERING SYSTEM
☐ SUSPENSION SYSTEM
☐ TIRES
☐ ELECTRICAL SYSTEM
☐ THROTTLE CONTROLS
☐ DRIVER CONTROLS
☐ POWER TRAIN
☐ FUEL SYSTEM
☐ VISIBILITY ITEMS
OTHER: ________
____

	PUNCH CODE	CARD COL.
NUMBER OF ITEMS CHECKED	—	79
WAS COMMENT ABOUT MECHANICAL MALFUNCTION MADE BY ANY PERSON(s)? (1) YES (2) NO	—	80
	END OF CARD 01	

IF "YES", GIVE COMMENT(s) AND NAME(s) AND ADDRESS(es) OF PERSON(s):

POSSIBLE MECHANICAL MALFUNCTION

COLLISION SKETCH

Based on Information From ____________________________

1. Draw heavy lines to show highway detail at location of collision.
2. Give name of streets and highways, if any.
3. Identify all objects in sketch. Case vehicle should always be labeled "A". Time sequence numbers may be added (e.g., A1, A2).
4. Include dimensions when possible.

INDICATE NORTH
BY ARROW

COLLISION SKETCH

DESCRIBE COLLISION EVENTS ____________________________

INFORMATION SOURCES: ____________________________

COMMENTS ____________________________

OTHER VEHICLES

NOTE: A complete análysis of this accident requires that a minimum amount of information be obtained on the other vehicle(s) involved. Therefore, the information on this page should be completed even though a seperate form may be filled out on these other vehicles.

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD 0 2 (10 11)

OTHER VEHICLE DESCRIPTION

VEHICLE IDENTIFICATION NUMBER

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

MAKE ______________________

MODEL ______________________

MODEL YEAR 19 __ (27) __ (28)

EMPTY WEIGHT OF VEHICLE, Kg. __ (29) __ (30) __ (31) __ (32) __ (33)

ODOMETER READING (KILOMETERS) __ (34) __ (35) __ (36) __ (37) __ (38) __ (39) __ (40)

	PUNCH CODE	CARD COL.
ESTIMATED SPEED (KPH)** PRIOR TO IMPACT ESTIMATED BY: ______	— — —	41-42-43
AT IMPACT ESTIMATED BY: ______	— — —	44-45-46
BODY STYLE (01) 2-DOOR HARDTOP (02) 2-DOOR SEDAN OR COUPE (03) 4-DOOR HARDTOP (04) 4-DOOR SEDAN (05) STATION WAGON (06) CONVERTIBLE (CLOTH TOP) (07) CONVERTIBLE (METAL TOP, REMOVABLE) (08) VAN (09) TRUCK (10) OTHER (BUS, ETC.) ______ (00) UNKNOWN	— —	47-48
COLOR: ______		
ENGINE: NUMBER OF CYLINDERS ______ (Enter "0" if unknown)	—	49
ENGINE DISPLACEMENT — LITRES	— —	50-51
NUMBER OF OCCUPANTS ______	— —	52-53
VEHICLE LOADING (4) BELOW FULL RATED LOAD (5) NEAR FULL RATED LOAD (6) ABOVE FULL RATED LOAD (0) UNKNOWN	—	54

*WHERE (1,2,0) IS INDICATED, USE 1 FOR YES
2 FOR NO
0 FOR UNKNOWN

**IF SPEEDS ARE UNKNOWN, ENTER 999 IN PUNCH CODE

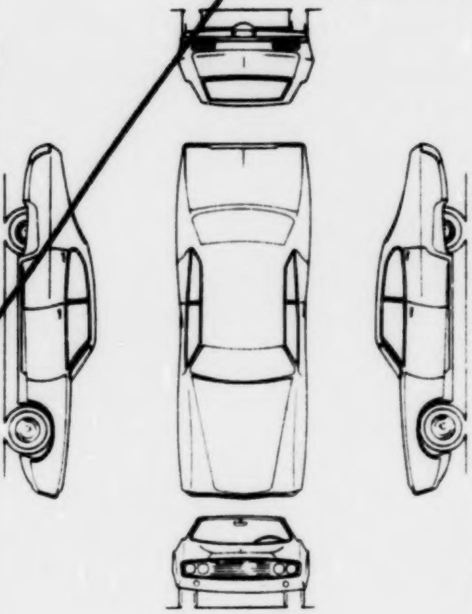
DEFORMATION INDEX (OTHER VEHICLE)

__ (55) __ (56) __ (57) __ (58) __ (59) __ (60) __ (61) __ (62) __ (63) %*

*Percent deformation if linear scale for VDI is also included.
(use left most columns for VDI if percent is not used)

VEHICLE DAMAGE

(This space may be used to enter details and notes about the other vehicle. See page 10 for instructions.)



COMMENTS: ______________________

END OF CARD 02

OTHER VEHICLE

CASE VEHICLE

CASE VEHICLE

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD

0 (10) 3 (11)

CASE VEHICLE DESCRIPTION

VEHICLE IDENTIFICATION NUMBER

VIN — VEH. TYPE CODE — [illegible]

V21	V22	V23	V24	V25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

MAKE ____________

MODEL ____________

MODEL YEAR 19 V36 (27 28)

EMPTY WEIGHT OF VEHICLE, Kg. V37 (29 30 31 32 33)

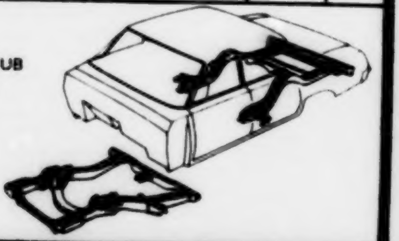
ODOMETER READING (KILOMETERS) V38 (34 35 36 37 38 39 40)

ESTIMATED SPEED**(KPH)	PUNCH CODE	CARD COL.
PRIOR TO IMPACT ESTIMATED BY ____________	V39	41 42 43
AT IMPACT ESTIMATED BY ____________	V40	44 45 46

BODY STYLE		
(01) 2 DOOR HARDTOP (No Upper "B" Pillars) (02) 2 DOOR SEDAN OR COUPE (03) 4 DOOR HARDTOP (No Upper "B" Pillars) (04) 4 DOOR SEDAN (05) STATION WAGON (06) CONVERTIBLE (Cloth Top) (07) CONVERTIBLE (Metal Top, Removable) (08) VAN (09) TRUCK (10) OTHER (BUS, ETC.) ____________ 11) LIGHT TRUCK (00) UNKNOWN COLOR: ____________	V41	47-48

BODY STRUCTURE		
(1) BODY AND FRAME (2) UNITIZED (3) INTEGRAL STUB FRAME (See Diagram)* (4) FLOOR PAN CHASSIS (5) OTHER (0) UNKNOWN	V42	49

BODY STUB FRAME



ENGINE LOCATION AND TRACTION	PUNCH CODE	CARD COL.
(1) FRONT-REAR DRIVE (2) FRONT-FRONT DRIVE (3) CENTRAL-REAR DRIVE (4) CENTRAL-FRONT DRIVE (5) REAR-REAR DRIVE (6) REAR-FRONT DRIVE (7) OTHER ____________ (0) UNKNOWN	V43	50
NUMBER OF CYLINDERS (Enter "0" if unknown)	V44	51
ENGINE DISPLACEMENT ________ LITRES	V45	52 53
NUMBER OF OCCUPANTS (Enter 99 if unknown)	V46	54-55
VEHICLE LOADING (4) BELOW FULL RATED LOAD (5) NEAR FULL RATED LOAD (6) ABOVE FULL RATED LOAD (0) UNKNOWN	V47	56

EQUIPMENT OPTIONS		
TRANSMISSION (4) AUTOMATIC (5) MANUAL (0) UNKNOWN	V48	57
STEERING (4) POWER (5) MANUAL (0) UNKNOWN	V49	58
BRAKES (4) POWER (5) MANUAL (0) UNKNOWN	V50	59
BRAKES TYPE (4) DRUM - ALL WHEELS (5) DISC - FRONT WHEELS (6) DISC - ALL WHEELS (7) REAR WHEELS ONLY (0) UNKNOWN	V51	60
BRAKE ANTI-LOCK DEVICE (2) NONE INSTALLED (4) TWO-WHEEL (5) FOUR-WHEEL (0) UNKNOWN	V52	61

*WHERE (1,2,0) IS INDICATED, USE 1 FOR YES
2 FOR NO
[✓ 3] FOR UNKNOWN

**IF SPEEDS ARE UNKNOWN, ENTER 999 IN PUNCH CODE.

EXTERIOR DAMAGE

CONVERTIBLE TOP OR SUN ROOF POSITION (AT TIME OF COLLISION)	PUNCH CODE	CARD COL.
(3) NOT APPLICABLE (4) UP OR CLOSED (5) RETRACTED OR REMOVED (6) SUN ROOF OPEN (7) SUN ROOF CLOSED (0) UNKNOWN	V53	62

END OF CARD 03

CASE VEHICLE REPAIR OR REPLACEMENT COST: ______ 63 64 65 66 67

DESIGNATE MONETARY UNIT: ______ 68 69

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD 0 4
10 11

CASE VEHICLE DEFORMATION INDEX

PRIMARY DEFORMATION V54 V55 V56 V57 V58 V59 V60 %
12 13 14 15 16 17 18 19 20

SECONDARY DEFORMATION V61 V62 V63 V64 V65 V66 V67 %
21 22 23 24 25 26 27 28 29

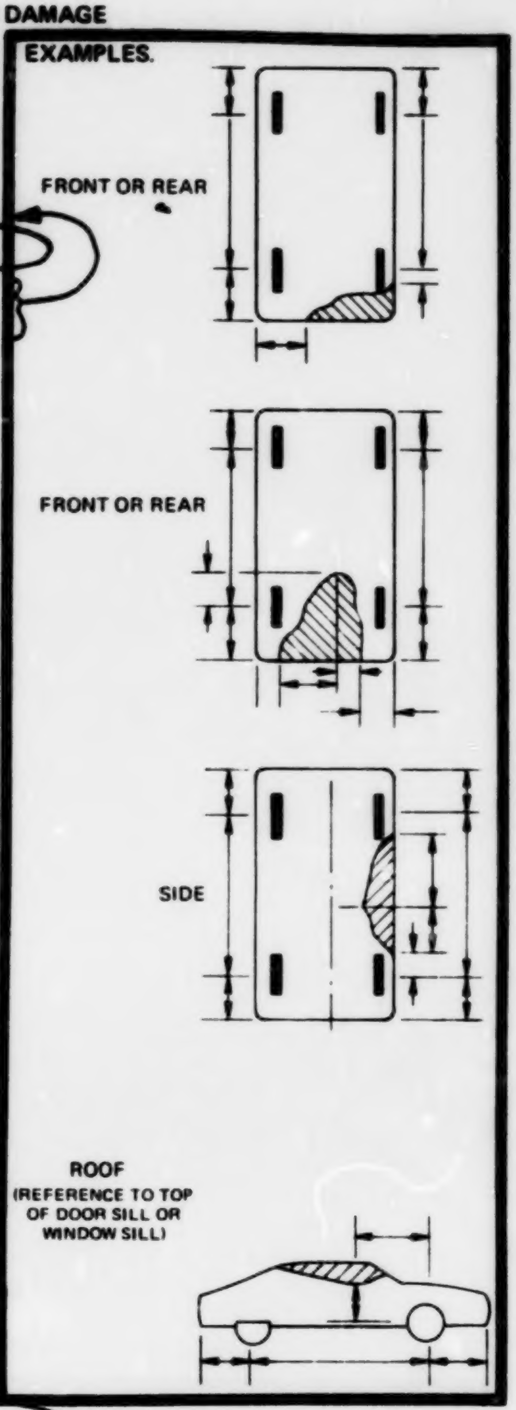
*PERCENT DEFORMATION IF LINEAR SCALE FOR VDI IS ALSO INCLUDED

(USE LEFT MOST COLUMNS FOR VDI IF PERCENT IS NOT USED)

SHEET METAL DAMAGE	PUNCH CODE	CARD COL
FRONT (1,2,0)*	V68	30
REAR (1,2,0)*	V69	31
LEFT SIDE (1,2,0)*	V70	32
RIGHT SIDE (1,2,0)*	V71	33
ROOF (1,2,0)*	V72	34
OTHER (1,2,0)*: ______	V73	35
REMARKS: ______		

SHEET METAL CRUSH		
INSERT MAXIMUM CRUSH DIMENSION TO THE NEAREST cm DIMENSIONS MUST AGREE WITH DIAGRAMS ON PAGE 10. (INSERT "999", IF UNKNOWN		
FRONT (cm.)	V74	36 37 38
REAR	V75	39 40 41
LEFT SIDE	V76	42 43 44
RIGHT SIDE	V77	45 46 47
ROOF	V78	48 49 50
OTHER: ______	V79	51 52 53

END OF CARD 04



SHEET METAL

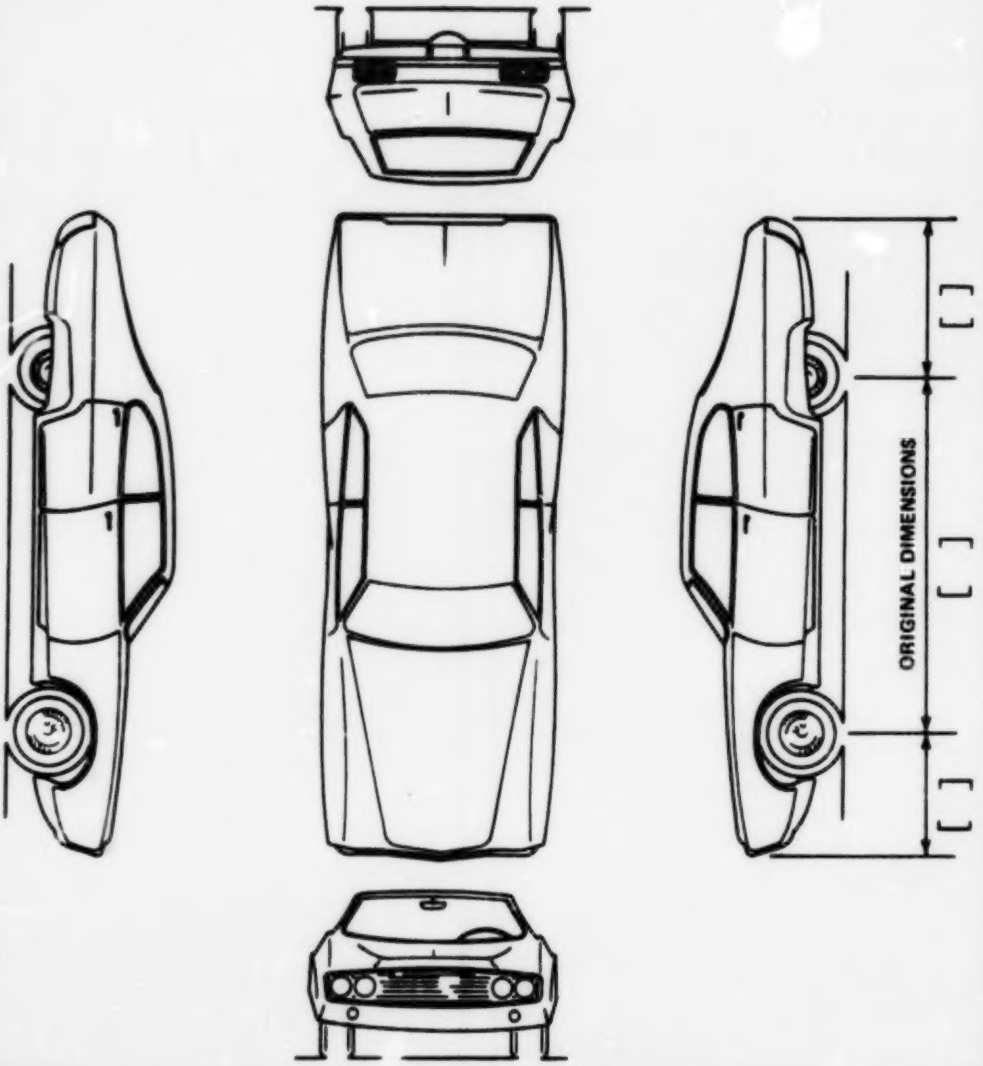
*WHERE (1,2,0) IS INDICATED, USE 1 FOR YES
2 FOR NO
0 FOR UNKNOWN

EXTERIOR DAMAGE

FIELD INVESTIGATOR INSTRUCTIONS:

1. Indicate crushed areas by outlining new perimeter of vehicle and shading the damaged areas on the large sketch below. Use as many sketches as necessary to completely describe the damage.
2. Enter the dimensions on the sketch(es) measured to the point of maximum penetration by the object(s) contacted. Use the examples on page 9 as a guide.
3. Enter the three dimensions to the center of the wheels (wheelbase, front and rear overhangs) on both sides of the car. (Original dimensions should appear in brackets [ ]).
4. Add other dimensions as necessary to completely describe the damage.
5. Dimensions to be given in metric system.

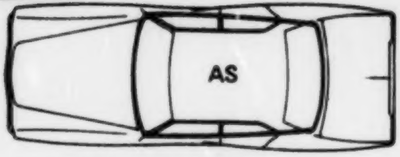
VEHICLE SKETCH



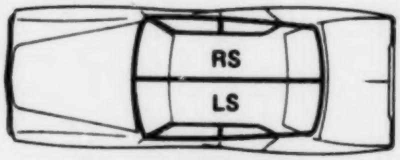
VEHICLE INTERIOR DEFORMATION INDEX

col 1 – 2

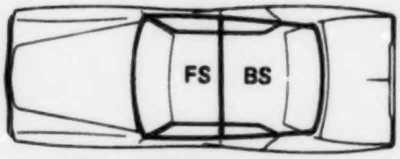
DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD $\frac{0}{10}$ $\frac{5}{11}$



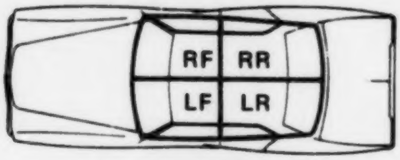
AS ALL SEATS



RS RIGHT SEATS
LS LEFT SEATS



FS FRONT SEATS
BS REAR SEATS



LF LEFT FRONT
LR LEFT REAR
RF RIGHT FRONT
RR RIGHT REAR
NC Non-clasifiable

VIDI is partly based on the same principles as the VDI and is meant to be used in combination with the VDI.

VDI gives a detailed specification of the location and extent of external deformation. VIDI is meant to complete this information regarding the reduction of the passenger compartment.

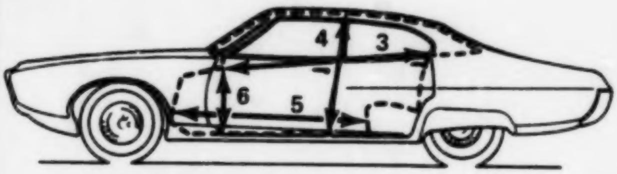
The amount of reduction is given in a 10-degrees linear scale with "0" meaning no reduction, "5" meaning reduction to the half and "X" meaning total reduction.

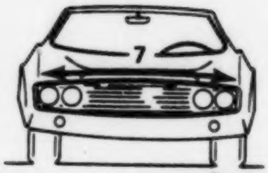
The location of the reduction is related to the seat/seats concerned.

Col 3-7	are used to indicate the reduction, where
Col 3	means the deformation between the top of the rear seat back rest and the instrument panel (not overhanging padding) or intruding objects
Col 4	means the deformation between floor and roof
Col 5	means the deformation between the foremost lower part of the rear seat and the fire wall
Col 6	means the deformation between the lower part of the instrument panel and the floor
Col 7	means the inner width deformation.

VEHICLE INTERIOR DEFORMATION INDEX

col 3 – 7





DEFORMATION SCALE

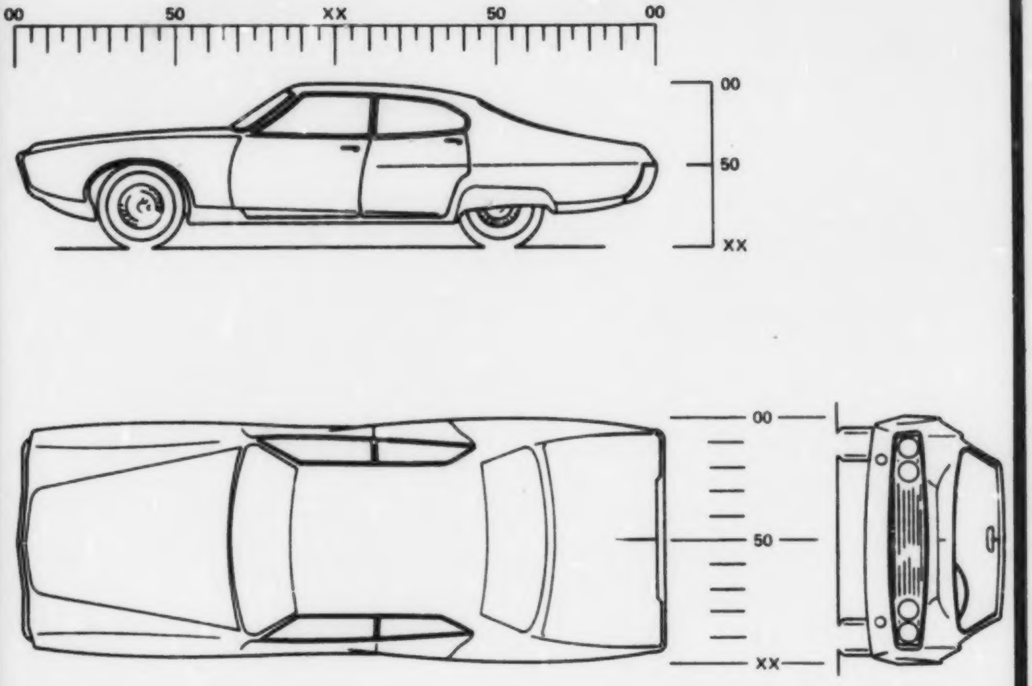
0 1 2 3 4 5 6 7 8 9

VIDI

	V80		V81	V82	V83	V84	V85
INDEX COLUMN NO.–	1	2	3	4	5	6	7
PUNCH CODE –	12	13	14	15	16	17	18

alphanumeric

LINEAR SCALE FOR DEFORMATION INDEX



EXTERIOR DEFORMATION

VDI CONSISTENCY STUDY

		V86		V87	V88	V89	V90	V91	V92	%*
INVESTIGATOR NO. 1 – PRIMARY VDI	INDEX COLUMN NO.	–1	2	3	4	5	6	7		
	PUNCH CODE	–19	20	21	22	23	24	25	26	27
		V93		V94	V95	V96	V97	V98	V99	%*
INVESTIGATOR NO. 2 – PRIMARY VDI	INDEX COLUMN NO.	–1	2	3	4	5	6	7		
	PUNCH CODE	–28	29	30	31	32	33	34	35	36
		V100		V101	V102	V103	V104	V105	V106	%*
CONSENSUS RATING VDI	INDEX COLUMN NO.	–1	2	3	4	5	6	7		
	PUNCH CODE	–37	38	39	40	41	42	43	44	45
SwRI RATING		S100		S101	S102	S103	S104	S105	S106	
		46	47	48	49	50	51	52	53	54

*Percent Deformation Entered in Last Two Columns if Linear Scale For VDI is Also Included.

END OF CARD 05

WHEELS & TIRES

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD		0 10	6 11
WHEELS		PUNCH CODE	CARD COL.
ORIGINAL EQUIPMENT (O.E.) TYPE			
FRONT (1,2,0)*		V107	12
REAR (1,2,0)*		V108	13
DAMAGED (1,2,0)*		V109	14
DESCRIBE DAMAGE AND NON O.E. WHEELS ________ ________ ________			
TIRES**			
TREAD TYPE (4) REGULAR (5) NON-STUDDED SNOW (6) STUDDED SNOW (7) 'SLICK' (8) LEFT AND RIGHT SIDES DIFFERENT (9) OTHER: ________ (0) UNKNOWN	FRONT	V110	15
	REAR	V111	16
TREAD WEAR (4) LIGHT (5) MEDIUM (6) HEAVY (7) BALD (8) LEFT AND RIGHT SIDES DIFFERENT (9) OTHER: ________ (0) UNKNOWN	FRONT	V112	17
	REAR	V113	18
PROFILE (4) REGULAR (5) WIDE OVAL (6) LEFT AND RIGHT SIDES DIFFERENT (7) OTHER: ________ (0) UNKNOWN	FRONT	V114	19
	REAR	V115	20
CARCASS TYPE (4) BIAS PLY (5) BELTED-BIAS PLY (6) RADIAL PLY (7) LEFT AND RIGHT SIDES DIFFERENT (8) RETREAD (9) OTHER: ________ (0) UNKNOWN	FRONT	V116	21
	REAR	V117	22

TIRES (CONT'D.)

SIZE

FRONT LEFT ________
FRONT RIGHT ________
REAR LEFT ________
REAR RIGHT ________

MANUFACTURER

FRONT LEFT ________
FRONT RIGHT ________
REAR LEFT ________
REAR RIGHT ________

MODEL

FRONT LEFT ________
FRONT RIGHT ________
REAR LEFT ________
REAR RIGHT ________

CODE
(IF SHOWN ON TIRE)

FRONT LEFT ________
FRONT RIGHT ________
REAR LEFT ________
REAR RIGHT ________

LOAD RANGE

FRONT LEFT ________
FRONT RIGHT ________
REAR LEFT ________
REAR RIGHT ________

WHEELS AND TIRES

*WHERE (1,2,0) IS INDICATED, USE 1 FOR YES 2 FOR NO 0 FOR UNKNOWN

**FOR VEHICLES WITH MORE THAN FOUR WHEELS AND TIRES, DUPLICATE THIS COMPLETE PAGE FOR THE APPROPRIATE NUMBER OF TIRES AND WHEELS AND ADD TO END OF THE CASE REPORT. IDENTIFY TIRE LOCATION BY NOTATION IN MARGIN OF ADDED PAGES.

FRONT EXTERIOR

HOOD

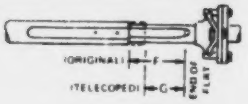
HOOD PERFORMANCE (FRONT OF VEHICLE)	PUNCH CODE	CARD COL.
HOOD LATCH(ES)		
RELEASED (1,2,3,0)*	V118	23
DAMAGED (1,2,3,0)*	V119	24
JAMMED (1,2,3,0)*	V120	25
HOOD HINGES		
LEFT — DAMAGED (1,2,3,0)*	V121	26
LEFT — SEPARATED (1,2,3,0)*	V122	27
RIGHT — DAMAGED (1,2,3,0)*	V123	28
RIGHT — SEPARATED (1,2,3,0)*	V124	29
HOOD REMAINED ON VEHICLE (1,2,3,0)*	V125	30
REAR EDGE OF HOOD		
ELEVATED (1,2,3,0)*	V126	31
CONTACTED WINDSHIELD (1,2,3,0)*	V127	32
PENETRATED WINDSHIELD (1,2,3,0)*	V128	33
OPTIONAL HOOD INSTALLED (1,2,0)*	V129	34
ENGINE OR TRANSMISSION MOUNT SEPARATION (1,2,0)*	V130	35
STEERING COLUMN FLEXIBLE COUPLING		
EQUIPPED (1,2,0)*	V131	36
SEPARATED (1,2,3,0)*	V132	37
OTHER DAMAGE (1,2,3,0)*	V133	38
DESCRIBE: ____________		

LOWER TELESCOPING SHAFT

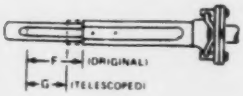
ENGINE COMPARTMENT TELESCOPING UNIT

(SEE DRAWING ON PAGE 21 FOR LOCATION)
(SEE TABLE OF DIMENSIONS PAGE 15)

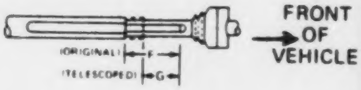
①


(ORIGINAL)
F
(TELECOPED)
G
END OF FLAT

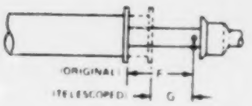
②


F
(ORIGINAL)
G
(TELESCOPED)

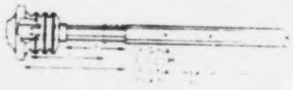
③


(ORIGINAL)
F
(TELESCOPED)
G
FRONT OF VEHICLE

④


(ORIGINAL)
F
(TELESCOPED)
G

⑤



TYPE OF UNIT

	PUNCH
(8) NONE INSTALLED (1) (2) SEE TABLE ABOVE (3) (4) (5) (9) OTHER ____________ (0) UNKNOWN NOTE: IF NONE, SKIP REST OF PAGE	V134 39
ORIGINAL LENGTH (See Table Above) (F)__________ TELESCOPED LENGTH (Measure, See Diagrams Above) (G)__________ DIFFERENCE (F minus G)__________ (ENTER 99.9 IF UNKNOWN)	V135 __ __ . __ 40 41 42
	END OF CARD 06

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES
2 FOR NO
3 FOR NOT APPLICABLE
0 FOR UNKNOWN

ENGINE COMPARTMENT TELESCOPING UNIT DIMENSIONS

				ORIGINAL LENGTH	
CORP.	MAKE	MODEL YEAR	TYPE	F	H(±1.52 cm)
AMC	ALL MAKES	67	1	21.[illegible]	—
	HORNET, GREMLIN	71-72	1	16.6	—
	JAVELIN, AMX	71-72	1	19.12	—
	MATADOR	71-72	1	15.95	—
	AMBASSADOR	71-72	1	14.35	—
CHRYSLER	BARRACUDA CHALLENGER	70-72	4	27.[illegible] (MANUAL) 19.3 (POWER)	—
GMC	CHEVELLE EL CAMINO TEMPEST F-85 VISTA CRUISER SPECIAL SPORT WAGON	67	1	8.45	—
		68-70	2	5.74	—
		71	2	5.69	—
	CAMARO FIREBIRD	70	2	5.74	—
		71	5	—	8.18
	GRAND PRIX	69-70	2	5.79	—
		71	5	—	8.74
	MONTE CARLO	70	2	6.53	—
		71	5	—	8,70
	VEGA	71-72	3	—	4.46
	BISCAYNE BROOKWOOD BEL AIR TOWNSMAN IMPALA KINGSWOOD CAPRICE CHEV	71-72	5	—	6.21
	CATALINA BONNEVILLE GRAND SAFARI P DELTA 88 NINETY EIGHT O LeSABRE ESTATE WAGON CENTURION ELECTRA 225 B	71-72	5	—	7.20
	GRANDVILLE P RIVIERA B	71-72	5	—	8.45
	CHEVY II - CH ELDORADO - C CADILLAC TORONADO - O	Thru 72	Not Equip.	—	—

LEFT PILLARS

FIRE

LEFT ROOF SIDE RAILS

LEFT EXTERIOR

OTHER TYPES OF TELESCOPING DEVICES:

DESCRIBE ______________________________

____

____

____

____

____

____

____

____

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD 0 7 / 10 11

	PUNCH CODE	CARD COL.
FIRE (1,2,0)*	V136	12
EXTENT OF FIRE (3) NOT APPLICABLE ✓ (1) MINOR (5) MAJOR (0) UNKNOWN	V137	13
ORIGIN OF FIRE (3) NOT APPLICABLE (4) ENGINE COMPARTMENT (5) PASSENGER COMPARTMENT (6) LUGGAGE COMPARTMENT (7) FUEL TANK AREA (8) OTHER: ____________ (0) UNKNOWN	V138	14

NOTES ABOUT FIRE: ______________________________

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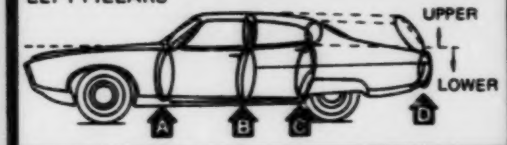
LEFT PILLARS



		PUNCH CODE	CARD COL.
LEFT PILLARS If left pillars were not damaged or separated or left roof side rail was not damaged or buckled, place a "I" in code column and skip rest of page.		V139	15
A-PILLAR			
UPPER	DAMAGED (1,2,0)*	V140	16
	SEPARATED (1,2,0)*	V141	17
LOWER	DAMAGED (1,2,0)*	V142	18
	SEPARATED (1,2,0)*	V143	19
B-PILLAR (Also Rear Pillar on Pick-Up Truck or Other Applicable)			
UPPER	DAMAGED (1,2,3,0)*	V144	20
	SEPARATED (1,2,3,0)*	V145	21
LOWER	DAMAGED (1,2,0)*	V146	22
	SEPARATED (1,2,0)*	V147	23
C-PILLAR			
UPPER	DAMAGED (1,2,3,0)*	V148	24
	SEPARATED (1,2,3,0)*	V149	25
LOWER	DAMAGED (1,2,3,0)*	V150	26
	SEPARATED (1,2,3,0)*	V151	27
D-PILLAR (Station Wagon & Limousine)			
UPPER	DAMAGED (1,2,3,0)*	V152	28
	SEPARATED (1,2,3,0)*	V153	29
LOWER	DAMAGED (1,2,3,0)*	V154	30
	SEPARATED (1,2,3,0)*	V155	31
LEFT ROOF SIDE RAILS			
DAMAGED (1,2,3,0)*		V156	32
BUCKLED (1,2,3,0)*		V157	33

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

LEFT EXTERIOR

SIDE STRUCTURE – LEFT SIDE	PUNCH CODE	CARD COL.
LEFT BODY MOUNT SEPARATION (1,2,3,0)*	V158	34
If door hinges and latches were not damaged and doors did not jam or open during collision, and continuity of the side structure was maintained, place an "I" in code column and skip rest of column.	V159	35
DOOR LATCHES		
LEFT FRONT – DAMAGED (1,2,3,0)*	V160	36
LEFT FRONT – RELEASED (1,2,3,0)*	V161	37
LEFT REAR – DAMAGED (1,2,3,0)*	V162	38
LEFT REAR – RELEASED (1,2,3,0)*	V163	39
DOOR HINGES		
LEFT FRONT – DAMAGED (1,2,3,0)*	V164	40
LEFT FRONT – SEPARATED (1,2,3,0)*	V165	41
LEFT REAR – DAMAGED (1,2,3,0)*	V166	42
LEFT REAR – SEPARATED (1,2,3,0)*	V167	43
CONTINUITY OF SIDE STRUCTURE MAINTAINED (1,2,3,0)*	V168	44
RECORD TYPE OF SEPARATED DOOR HINGES; e.g. MALLEABLE IRON, STAMPED STEEL, ETC. AND LOCATION OF SIDE STRUCTURE SEPARATION ON FLY-LEAF.		
DOORS OPENED DURING COLLISION		
LEFT – FRONT (1,2,0)*	V169	45
LEFT – REAR (1,2,3,0)*	V170	46
DOORS JAMMED CLOSED		
LEFT – FRONT (1,2,0)*	V171	47
LEFT – REAR (1,2,3,0)*	V172	48

REAR EXTERIOR

	PUNCH CODE	CARD COL.
FUEL TANK AND LINES		
APPROXIMATE FUEL LEVEL AT TIME OF IMPACT (4) LESS THAN 1/2 (5) 1/2 OR MORE (0) UNKNOWN	V173	49
TANK RETENTION (4) COMPLETE RETENTION (5) PARTIAL DISENGAGEMENT (6) COMPLETE DISENGAGEMENT (0) UNKNOWN	V174	50
TANK DEFORMED (1,2,0)*	V175	51
FUEL LEAKAGE PRESENT (1,2,0)*	V176	52
LOCATION OF LEAKS		
FROM THE TANK (1,2,3,0)*	V177	53
FROM THE NECK (1,2,3,0)*	V178	54
FROM THE LINES (1,2,3,0)*	V179	55
TRAILER AND HITCH		
TRAILER HITCH INSTALLED (1,2,0)*	V180	56
RECORD TYPE OF HITCH; e.g. BUMPER, FRAME, LOAD DISTRIBUTING, ETC. ________________ ________________		
OBJECT BEING TOWED (AT TIME OF COLLISION) (2) NONE (4) CAR (5) BOAT ON TRAILER (6) HOUSE TRAILER (7) OTHER: ________ (0) UNKNOWN	V181	57

TRAILER

FUEL TANK

LEFT SIDE STRUCTURE

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 2 FOR NO 3 FOR NOT APPLICABLE 0 FOR UNKNOWN

REAR EXTERIOR

TRUNK

TAILGATE

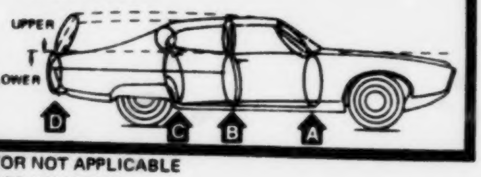
LUGGAGE AREA

FILL IN TRUNK LID **OR** TAILGATE DETAILS AND REST OF PAGE.	PUNCH CODE	CARD COL.
TAILGATE PERFORMANCE		
LATCHES		
RELEASED (1,2,0)*	V182	58
DAMAGED (1,2,0)*	V183	59
LATCH OR TAILGATE JAMMED (1,2,0)*	V184	60
HINGES		
BOTTOM LEFT — DAMAGED (1,2,3,0)*	V185	61
BOTTOM LEFT — SEPARATED (1,2,3,0)*	V186	62
BOTTOM RIGHT — DAMAGED (1,2,3,0)*	V187	63
BOTTOM RIGHT — SEPARATED (1,2,3,0)*	V188	64
TOP LEFT — DAMAGED (1,2,3,0)*	V189	65
TOP LEFT — SEPARATED (1,2,3,0)*	V190	66
TOP RIGHT — DAMAGED (1,2,3,0)*	V191	67
TOP RIGHT — SEPARATED (1,2,3,0)*	V192	68
EQUIPPED WITH TWO-WAY TAILGATE (1,2,0)*	V193	69
TAILGATE ELECTRIC WINDOW OPERABLE (1,2,3,0)*	V194	70
	END OF CARD 07	

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD 0 8 / 10 11

TRUNK LID PERFORMANCE (REAR OF VEHICLE)	PUNCH CODE	CARD COL.
LATCHES		
RELEASED (1,2,3,0)*	V195	12
DAMAGED (1,2,3,0)*	V196	13
LATCH OR LID JAMMED (1,2,3,0)*	V197	14
HINGES		
LEFT — DAMAGED (1,2,3,0)*	V198	15
LEFT — SEPARATED (1,2,3,0)*	V199	16
RIGHT — DAMAGED (1,2,3,0)*	V200	17
RIGHT — SEPARATED (1,2,3,0)*	V201	18
LUGGAGE AREA (EITHER FRONT OR REAR)		
DAMAGED (1,2,3,0)*	V202	19
SPARE TIRE SEPARATION (1,2,3,0)*	V203	20
TRUCK - PASSENGER COMPARTMENT PARTITION DAMAGE (1,2,3,0)*	V204	21
BACKLIGHT HEADER (REAR WINDOW TOP FRAME)		
BACKLIGHT HEADER DAMAGED OR BUCKLED (1,2,3,0)*	V205	22

RIGHT PILLARS



*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 2 FOR NO 3 FOR NOT APPLICABLE 0 FOR UNKNOWN

RIGHT EXTERIOR

RIGHT PILLARS	PUNCH CODE	CARD COL
If right pillars were not damaged or separated or right roof side rail was not damaged or buckled, place an "I" in code column and skip to "WINDSHIELD HEADER" at bottom of this column.	V206	23
A-PILLAR		
UPPER — DAMAGED (1,2,0)*	V207	24
UPPER — SEPARATED (1,2,0)*	V208	25
LOWER — DAMAGED (1,2,0)*	V209	26
LOWER — SEPARATED (1,2,0)*	V210	27
B-PILLAR (ALSO REAR PILLAR ON PICK-UP TRUCK OR OTHER APPLICABLE)		
UPPER — DAMAGED (1,2,3,0)*	V211	28
UPPER — SEPARATED (1,2,3,0)*	V212	29
LOWER — DAMAGED (1,2,0)*	V213	30
LOWER — SEPARATED (1,2,0)*	V214	31
C-PILLAR		
UPPER — DAMAGED (1,2,3,0)*	V215	32
UPPER — SEPARATED (1,2,3,0)*	V216	33
LOWER — DAMAGED (1,2,3,0)*	V217	34
LOWER — SEPARATED (1,2,3,0)*	V218	35
D-PILLAR (STATION WAGON & LIMOUSINE)		
UPPER — DAMAGED (1,2,3,0)*	V219	36
UPPER — SEPARATED (1,2,3,0)*	V220	37
LOWER — DAMAGED (1,2,3,0)*	V221	38
LOWER — SEPARATED (1,2,3,0)*	V222	39
RIGHT ROOF SIDE RAILS		
DAMAGED (1,2,3,0)*	V223	40
BUCKLED (1,2,3,0)*	V224	41
WINDSHIELD HEADER		
DAMAGED OR BUCKLED (1,2,0)*	V225	42

SIDE STRUCTURE – RIGHT SIDE	PUNCH CODE	CARD COL.
RIGHT BODY MOUNT SEPARATION (1,2,3,0)*	V226	43
If door hinges and latches were not damaged and doors did not jam or open during collision, and continuity of the side structure was maintained, place an "I" in code column and skip rest of page.	V227	44
DOOR LATCHES		
RIGHT FRONT — DAMAGED (1,2,3,0)*	V228	45
RIGHT FRONT — RELEASED (1,2,3,0)*	V229	46
RIGHT REAR — DAMAGED (1,2,3,0)*	V230	47
RIGHT REAR — RELEASED (1,2,3,0)*	V231	48
DOOR HINGES		
RIGHT FRONT — DAMAGED (1,2,3,0)*	V232	49
RIGHT FRONT — SEPARATED (1,2,3,0)*	V233	50
RIGHT REAR — DAMAGED (1,2,3,0)*	V234	51
RIGHT REAR — SEPARATED (1,2,3,0)*	V235	52
CONTINUITY OF SIDE STRUCTURE MAINTAINED (1,2,3,0)*	V236	53
RECORD TYPE OF SEPARATED DOOR HINGES; e.g., MALLEABLE IRON, STAMPED STEEL, ETC. and LOCATION OF SIDE STRUCTURE SEPARATION ON FLY-LEAF.		
DOORS OPENED DURING COLLISION		
RIGHT — FRONT (1,2,0)*	V237	54
RIGHT — REAR (1,2,3,0)*	V238	55
DOORS JAMMED CLOSED		
RIGHT — FRONT (1,2,0)*	V239	56
RIGHT — REAR (1,2,3,0)*	V240	57

RIGHT SIDE ENTRANCE

RIGHT PILLARS

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

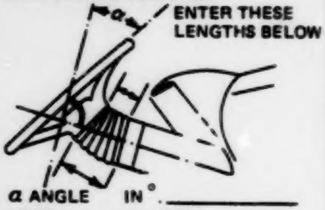
STEERING WHEEL

STEERING WHEEL	PUNCH CODE	CARD COL.
TYPE (TO BE INSERTED BY ANALYSIS GROUP)	V241	58-59
NOTES ON NON-ORIGINAL EQUIPMENT STEERING WHEEL: ______ ______		
STEERING WHEEL RIM		
DAMAGE (2) NONE (4) SLIGHTLY DEFORMED (5) SEVERELY BENT (6) BROKEN (0) UNKNOWN	V242	60
OCCUPANT CONTACT (1,2,0)*	V243	61
STEERING WHEEL SPOKES		
NUMBER OF SPOKES (ENTER "0" IF UNKNOWN)	V244	62
DAMAGE (2) NONE (4) SLIGHTLY DEFORMED (5) SEVERELY BENT (6) BROKEN (0) UNKNOWN	V245	63
OCCUPANT CONTACT (1,2,0)*	V246	64
HORN RING, HORN BUTTON(S), OR SPOKE SHROUD		
DAMAGED (1,2,0)*	V247	65
OCCUPANT CONTACT (1,2,0)*	V248	66
STEERING WHEEL ENERGY ABSORBING DEVICE (SEE DRAWING ON PAGE 21 FOR LOCATION) EQUIPPED (1,2,0)*	V249	67

STEERING WHEEL ENERGY ABOSRBING DEVICE TABLE

CORPOR-ATION	MODEL YEAR	MAKE	ORIG. LENGTH (H)
CHRYSLER	70	BARRACUDA CHALLENGER	cm. 12.45

ENERGY ABSORBING DEVICE FINAL POSITION	PUNCH CODE	CARD COL.
MEASURE THE MINIMUM AND MAXIMUM OVERALL LENGTH OF THE ENERGY ABSORBING DEVICE (BETWEEN THE STEERING WHEEL AND STEERING COLUMN).		



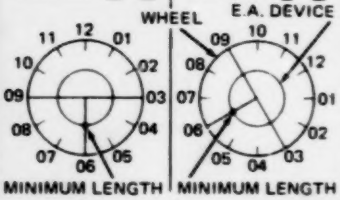
α ANGLE IN °. ______

MAX. = ____ mm; MIN. = ____ mm

THE E.A. DEVICE ROTATES WITH THE STEERING WHEEL. WE WANT TO KNOW WHERE THIS MINIMUM LENGTH OCCURRED (AROUND THE CIRCUMFERENCE OF THE E.A. DEVICE) WITH RESPECT TO THE SPOKES. RECORD BELOW THE O'CLOCK POSITION AT WHICH THIS MINIMUM LENGTH WAS MEASURED.

EXAMPLES

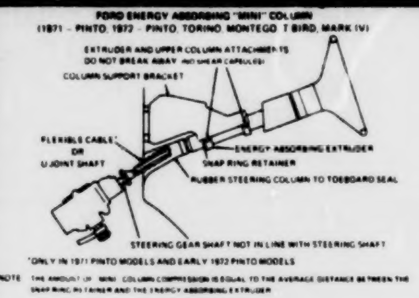
O'CLOCK - 0 6 | O'CLOCK - 0 6

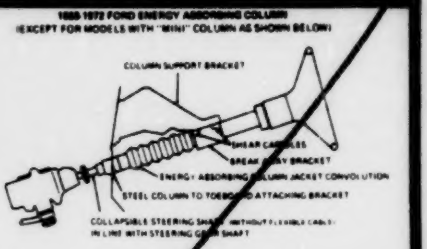


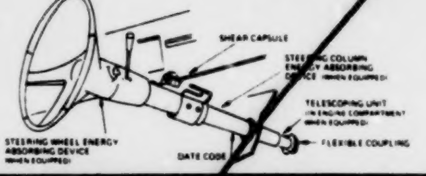
	PUNCH CODE	CARD COL.
(ENTER 00 IF UNKNOWN) O'CLOCK=	V250 _ _	68-69
ENERGY ABSORBING DEVICE COMPRESSION (ENTER 99.9 IF UNKNOWN)		
ORIGINAL LENGTH (H)____ mm (SEE TABLE ON PAGE 21) DAMAGED MAX. LENGTH (X)____ mm DIFFERENCE (H-X)____ mm	V251 _ _ . _ 70 71 72	
ORIGINAL LENGTH (H)____ mm (SEE TABLE ON PAGE 21) DAMAGED MIN. LENGTH (Y) ____ mm DIFFERENCE (H-Y)____ mm	V252 _ _ . _ 73 74 75	
DEVICE EXTENDED (4) X GREATER THAN H (5) X AND Y GREATER THAN H (6) NEITHER (0) UNKNOWN	V253 _ 76	
	END OF CARD 08	

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE
1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

STEERING WHEEL AND COLUMN


FORD ENERGY ABSORBING "MINI" COLUMN
(1971 – PINTO, 1972 – PINTO, TORINO, MONTEGO, T BIRD, MARK IV)
EXTRUDER AND UPPER COLUMN ATTACHMENTS DO NOT BREAK AWAY (NO SHEAR CAPSULES)
COLUMN SUPPORT BRACKET
FLEXIBLE CABLE* OR U JOINT SHAFT
ENERGY ABSORBING EXTRUDER
SNAP RING RETAINER
RUBBER STEERING COLUMN TO TOEBOARD SEAL
STEERING GEAR SHAFT NOT IN LINE WITH STEERING SHAFT
*ONLY IN 1971 PINTO MODELS AND EARLY 1972 PINTO MODELS
NOTE: THE AMOUNT OF "MINI" COLUMN COMPRESSION IS EQUAL TO THE AVERAGE DISTANCE BETWEEN THE SNAP RING RETAINER AND THE ENERGY ABSORBING EXTRUDER


1968-1972 FORD ENERGY ABSORBING COLUMN
(EXCEPT FOR MODELS WITH "MINI" COLUMN AS SHOWN BELOW)
COLUMN SUPPORT BRACKET
SHEAR CAPSULES
BREAK AWAY BRACKET
ENERGY ABSORBING COLUMN JACKET CONVOLUTION
STEEL COLUMN TO TOEBOARD ATTACHING BRACKET
COLLAPSIBLE STEERING SHAFT (WITHOUT FLEXIBLE CABLE) IN LINE WITH STEERING GEAR SHAFT


SHEAR CAPSULE
STEERING COLUMN ENERGY ABSORBING DEVICE (WHEN EQUIPPED)
TELESCOPING UNIT (IN ENGINE COMPARTMENT WHEN EQUIPPED)
FLEXIBLE COUPLING
STEERING WHEEL ENERGY ABSORBING DEVICE (WHEN EQUIPPED)
DATE CODE

STEERING COLUMN ENERGY ABSORBING DEVICE TABLE

VEHICLE MANUFACTURER	MODEL YEAR	MAKE	STEERING COLUMN TYPE	E.A. DEVICE TYPE	ORIGINAL LENGTH C(cm.)
AMC	67-69	ALL MAKES	ALL TYPES	2	24.64
	70-72	HORNET, GREMLIN (NON-TILT ONLY) JAVELIN AMX MATADOR AMBASSADOR	NON-TILT	2	20.96
			TILT	2	19.81
CHRYSLER	67-69	ALL MAKES	ALL	1	24.64
	70-72	BARRACUDA or CHALLENGER (SEE TABLE PAGE 20)		NONE	(H)* 12.45
		ALL OTHER MAKES		1	24.64
	71-72	COLT	TILT	7	17.78
GMC	67-68	CORVAIR	ALL	1	26.16
		ALL OTHER MAKES	ALL	1	24.64
	67-72	OPEL	ALL	1	26.16
	69-72	ALL OTHER GMC MAKES EXCEPT THOSE LISTED BELOW		2	20.96
		CORVETTE	ALL	3	20.96
		CAMARO, CHEVELLE, FIREBIRD, TEMPEST, GTO, F-85, CUTLASS, VISTA-CRUISER SPECIAL, SKYLARK, SPORTWAGON, GS-400	STANDARD	2	20.96
			TILT	2	19.81
		CADILLAC (EXCEPT ELDORADO)	TILT-TELESCOPE	2	19.81
	71-72	VEGA	STANDARD	4	20.59
FORD	68-72	ALL MAKES (EXCEPT 71 & 72 PINTO)**	ALL	5	24.13

* USE (H) MEASUREMENT FOR ORIGINAL LENGTH
**SEE DIAGRAMS ABOVE

STEERING COLUMN (CONT'D.)

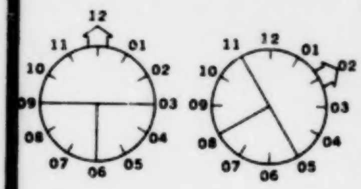
STEERING WHEEL AND COLUMN

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD	0 9	10 11

STEERING WHEEL POSITION AT TIME OF COLLISION	PUNCH CODE	CARD COL.
IN WHAT O'CLOCK POSITION WAS THE NORMAL TOP OF THE WHEEL POINTED WHEN THE COLLISION OCCURRED?		

EXAMPLES

O'CLOCK - 1 2 O'CLOCK - 0 2



(NORMAL STRAIGHT AHEAD) (00) UNKNOWN O'CLOCK -	V254	12-13

STEERING WHEEL PAD (LOAD DISTRIBUTING MATERIAL)		
EQUIPPED (1,2,0)*	V255	14
DEFORMED (1,2,3,0)* (PUT NOTES ON FOLD-OUT FLY-LEAF)	V256	15

TILT FEATURE		
EQUIPPED (1,2,0)*	V257	16
FINAL POSITION (3) NOT APPLICABLE (4) NORMAL (5) TILTED UP (6) TILTED DOWN (0) UNKNOWN	V258	17

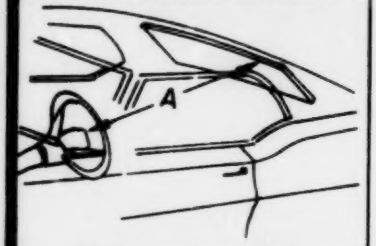
TELESCOPING FEATURE		
EQUIPPED (1,2,0)*	V259	18
FINAL POSITION (3) NOT APPLICABLE (4) NORMAL (5) ABOVE NORMAL (6) BELOW NORMAL (0) UNKNOWN	V260	19

SWING-AWAY FEATURE	PUNCH CODE	CARD COL.
EQUIPPED (1,2,0)*	V261	20
FINAL POSITION (3) NOT APPLICABLE (4) NORMAL (5) RIGHT OF NORMAL (0) UNKNOWN	V262	21

FINAL COLUMN POSITION

MEASURE THE DISTANCE FROM THE STEERING WHEEL CENTER TO THE TOP OF THE REAR WINDOW GLASS, DIRECTLY BEHIND THE HUB. ("A" IN SKETCH).

ENTER THIS DISTANCE IN BLANK "A".



A:\____________ mm

COLUMN MOVEMENT

(ENTER 99.9 IF UNKNOWN)

FROM A CORRESPONDING UNDAMAGED VEHICLE, MAKE A MEASUREMENT SIMILAR TO "A" ABOVE, AND RECORD IT IN BLANK "B". (PLACE TILT STEERING WHEEL IN MID-POSITION AND TELESCOPING COLUMNS IN FULL DOWN POSITION).

ORIGINAL DIMENSION (B)________ mm

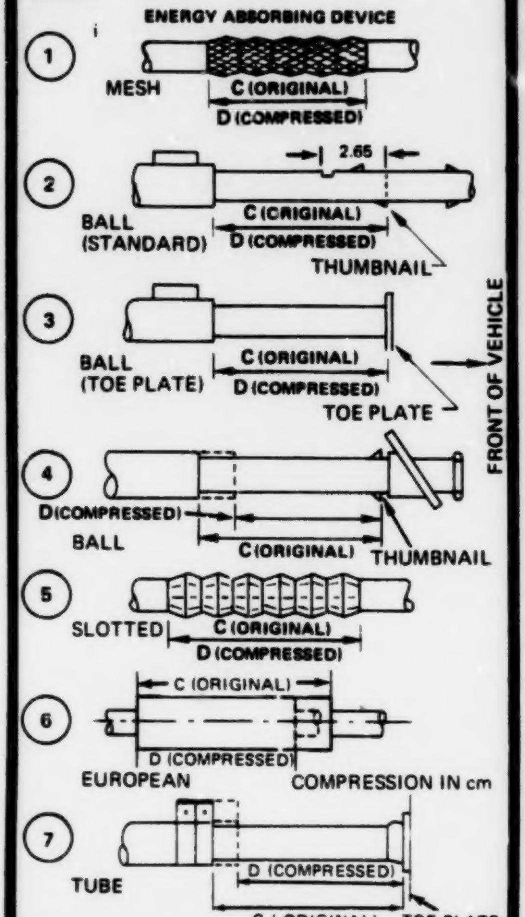
DAMAGED VEHICLE DIMENSION (A)________ mm

DIFFERENCE (A-B)________ mm	V263	22 23 24
DIRECTION OF MOTION (4) FORWARD (A GREATER THAN B) (5) REARWARD (A LESS THAN B) (6) NEITHER (0) UNKNOWN	V264	25

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

STEERING COLUMN (CONT'D.)

STEERING COLUMN ENERGY ABSORBING DEVICE


ENERGY ABSORBING DEVICE
①
MESH
C (ORIGINAL)
D (COMPRESSED)
②
2.65
BALL (STANDARD)
C (ORIGINAL)
D (COMPRESSED)
THUMBNAIL
③
BALL (TOE PLATE)
C (ORIGINAL)
D (COMPRESSED)
TOE PLATE
FRONT OF VEHICLE
④
D(COMPRESSED)
BALL
C (ORIGINAL)
THUMBNAIL
⑤
SLOTTED
C (ORIGINAL)
D (COMPRESSED)
⑥
C (ORIGINAL)
D (COMPRESSED)
EUROPEAN
COMPRESSION IN cm
⑦
TUBE
D (COMPRESSED)
C (ORIGINAL)
TOE PLATE

STEERING COLUMN ENERGY ABSORBING DEVICE

(SEE DRAWING ON PAGE 21 FOR LOCATION)

TYPE OF DEVICE (See Above)

(8) NOT EQUIPPED
(1) MESH
(2) BALL (STANDARD)
(3) BALL (WITH TOE PLATE)
(4) BALL
(5) SLOTTED
(6) EUROPEAN
(7) TUBE
(9) OTHER: ____________
(0) UNKNOWN

PUNCH
V265
26

DATE CODE __ __ __ __ __ __

(SEE DRAWING ON PAGE 21 FOR LOCATION)

ORIGINAL LENGTH
(See Table on Page 21) (C)______

COMPRESSED LENGTH
(Measure, See Diagrams above) (D)______

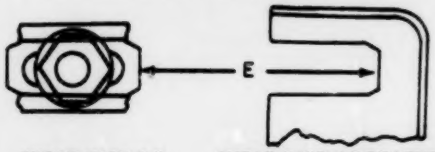
COMPRESSION (C minus D)______
(ENTER 99.9 IF UNKNOWN)

NOTE: ALL DIMENSIONS IN PUNCH COLUMN SHOULD BE IN MILLIMETERS

PUNCH
V266
27 28 29

SHEAR CAPSULE SEPARATION

(SEE DRAWING ON PAGE 21 FOR LOCATION)



SHEAR CAPSULE (FASTENED TO INSTRUMENT PANEL)

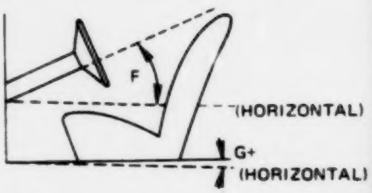
SHEAR CAPSULE BRACKET (FASTENED TO STEERING COLUMN)

NOTE: WHEN CAPSULES HAVE SEPARATED IT MAY BE NECESSARY TO LIFT COLUMN ASSEMBLY INTO POSITION AGAINST INSTRUMENT PANEL BEFORE MEASURING.

SHEAR CAPSULE SEPARATION DISTANCE ('E' IN DIAGRAM ABOVE)
(ENTER 99.9 IF UNKNOWN)

PUNCH
V267
30 31 32

STEERING COLUMN VERTICAL ANGLE**


F
(HORIZONTAL)
G+
(HORIZONTAL)

MEASURE THE ANGLE THE STEERING COLUMN MAKES WITH THE HORIZONTAL ('F' IN DIAGRAM ABOVE), AND THE ANGLE THE DOOR SILL MAKES WITH THE HORIZONTAL ('G' IN DIAGRAM) AND ENTER THEM BELOW. ANGLES WHICH TILT DOWN TOWARD THE FRONT OF THE CAR ARE POSITIVE.

(NOTE: LIFT COLUMN INTO POSITION FOR MEASUREMENT)

F:______DEGREES; G:______DEGREES

**SEE COLUMN VERTICAL ROTATION, NEXT PAGE.

PASSENGER COMPARTMENT

GENERAL INFORMATION

	PUNCH	
COLUMN VERTICAL ROTATION **FINAL COLUMN POSITION** (Dimensions From Previous Page)		
COLUMN ANGLE (F)____ (Relative to Ground)		
VEHICLE ANGLE (G)____		
COLUMN ANGLE (F-G=H)____ (Relative to Vehicle)		
FROM A CORRESPONDING UNDAMAGED VEHICLE, MAKE A MEASUREMENT SIMILAR TO "H" ABOVE AND RECORD IT IN BLANK "J"		
ORIGINAL DIMENSION (J)____		
DAMAGED VEHICLE DIMENSION (H)____		
COLUMN ROTATION (H-J)____ (ENTER 99 IF UNKNOWN)	V268 _ _	33 34

GENERAL INFORMATION	PUNCH CODE	CARD COL.
PASSENGER COMPARTMENT REDUCED IN SIZE (1,2,0)*	V269 _	35
EXTERNAL OBJECT INTRUSION (1,2,0)* DESCRIBE ON FOLD-OUT FLY-LEAF	V270 _	36
INTERNAL LOOSE OBJECT (1,2,0)*	V271 _	37
VERTICAL ROTATION OF INSTRUMENT PANEL (1,2,0)*	V272 _	38
FIREWALL (COWL) DEFORMATION (1,2,0)*	V273 _	39
FLOORPAN DEFORMATION (1,2,0)* (INCLUDING TOEPAN)	V274 _	40
WINDSHIELD		
CRACKED (1,2,3,0)*	V275 _	41
BROKEN (1,2,3,0)* (Plastic Interlayer Torn)	V276 _	42
POPPED OUT (1,2,3,0)**	V277 _	43
OCCUPANT CONTACT (1,2,3,0)*	V278 _	44
CRACKED OR BROKEN BY OCCUPANT CONTACT (1,2,3,0)*	V279 _	45
BOND SEPARATED (1,2,0)* (IF "YES", ESTIMATE PERCENT) ________ %	V280 _	46

WINDSHIELD

WINDSHIELD CODE (Where Applicable for U.S.A. Manufacturers)	V281 [redacted] _ _	47-48

WINDSHIELD MARK

DRAW A GLASS MANUFACTURER'S WINDSHIELD MARK WHICH IS LOCATED ALONG THE BOTTOM OF THE WINDSHIELD AT CENTER OR AT ONE CORNER.

EXAMPLE OF TYPICAL MARK:

SAFETY
ASI

L O F

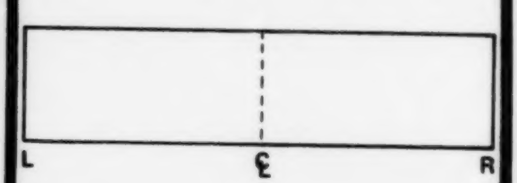
PLATE
GA

LAMINATED
M3

MARK ON CASE VEHICLE:

	PUNCH CODE	CARD COL.
TYPE OF WINDSHIELD GLASS (4) LAMINATE .38 mm (15 MIL) LAMINATE 0.76 mm (30 MIL) (6) TEMPERED (7) OTHER ________ (0) UNKNOWN	V282 [redacted] _	49

LOCATE AREA OF WINDSHIELD INTEREST OR DAMAGE WITH DIMENSIONS (VERTICAL & HORIZONTAL) ON THIS DIAGRAM OF THE WINDSHIELD AS VIEWED FROM INSIDE.
(DIMENSIONS IN MILLIMETERS)



*WHERE (1,2,3,0) IS INDICATED, USE 1 FOR YES 2 FOR NO 3 FOR NOT APPLICABLE 0 FOR UNKNOWN

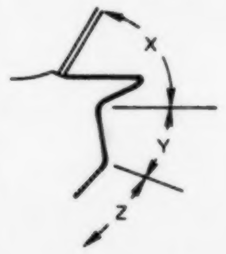
**CODE 2 IMPLIES A POP-OUT TYPE OF WINDSHIELD THAT DIDN'T POP OUT. CODE 3 INDICATES NOT A POP-OUT TYPE OF WINDSHIELD.

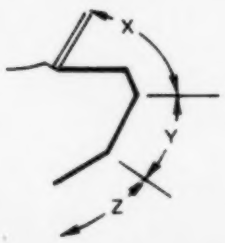
PASSENGER COMPARTMENT

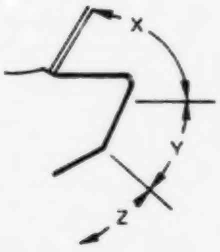
INSTRUMENT PANEL

INSTRUMENT PANEL	EQUIPPED (1,2,0) * PUNCH CODE	EQUIPPED (1,2,0) * CARD COL.	DAMAGED (1,2,3,0) * PUNCH CODE	DAMAGED (1,2,3,0) * CARD COL.	OCCUPANT CONTACT (1,2,3,0)* PUNCH CODE	OCCUPANT CONTACT (1,2,3,0)* CARD COL.
UPPER PANEL ("X" IN DIAGRAMS)			V283	50	V284	51
MIDPANEL ("Y" IN DIAGRAMS)			V285	52	V286	53
LOWER PANEL ("Z" IN DIAGRAMS)			V287	54	V288	55
ASHTRAY			V289	56	V290	57
CONTROL KNOBS AND LEVERS			V291	58	V292	59
GLOVE COMPARTMENT AREA			V293	60	V294	61
INSTRUMENTS			V295	62	V296	63
PARKING BRAKE RELEASE OR BRACKET (Regardless of Location, i.e., Between Front Seats, Etc.)	V297	64	V298	65	V299	66
AIR CONDITIONING OUTLETS OR UPPER VENTILATION OUTLETS	V300	67	V301	68	V302	69
HEATER OR AIR CONDITIONING DUCTS	V303	70	V304	71	V305	72
RADIO	V306	73	V307	74	V308	75
OTHER: ______			V309	76	V310	77
			END OF CARD 09			

TYPICAL PANEL DIAGRAMS







*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 2 FOR NO 3 FOR NOT APPLICABLE 0 FOR UNKNOWN

PASSENGER COMPARTMENT

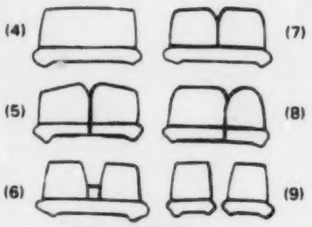
~~DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD~~ $\frac{1}{10}$ $\frac{0}{11}$

OTHER INTERIOR DAMAGE

OTHER INTERIOR ITEMS (FRONT OF VEHICLE)	EQUIPPED (1,2,0) *		DAMAGED (1,2,3,0)*		OCCUPANT CONTACT (1,2,3,0)*	
	PUNCH CODE	CARD COL.	PUNCH CODE	CARD COL.	PUNCH CODE	CARD COL.
FOOT CONTROLS			V311	12	V312	13
IGNITION KEYS			V313	14	V314	15
REAR VIEW MIRROR			V315	16	V316	17
SUNVISOR AND FITTINGS			V317	18	V318	19
WINDSHIELD TOP MOLDING			V319	20	V320	21
LEFT A-PILLAR (UPPER OR LOWER)			V321	22	V322	23
RIGHT A-PILLAR (UPPER OR LOWER)			V323	24	V324	25
CONSOLE	V325	26	V326	27	V327	28
TRANSMISSION SELECTOR LEVER						
ON STEERING COLUMN	V328	29	V329	30	V330	31
ON CONSOLE OR FLOOR	V331	32	V332	33	V333	34
ON INSTRUMENT PANEL	V334	35	V335	36	V336	37

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

PASSENGER COMPARTMENT

SEATS	PUNCH CODE	CARD COL.
TYPE OF FRONT SEAT  (0) UNKNOWN	V337	38
FOLDING BACKS (1,2,0)*	V338	39
DELUXE ACCESSORIES (1,2,0)*	V339	40
TYPE OF SEAT ADJUSTERS (4) MANUAL (5) POWER (6) RIGID (7) OTHER: __________ (0) UNKNOWN	V340	41
TYPE OF SEAT ADJUSTMENT (3) NONE (NOT APPLICABLE) (4) 2-WAY (5) 4-WAY (6) 6-WAY (7) OTHER __________ (0) UNKNOWN	V341	42
DAMAGE TO ADJUSTERS (1,2,0)*	V342	43
TYPE OF DAMAGE TO ADJUSTERS (CHOOSE TWO) (3) NONE (NOT APPLICABLE) (4) CHUCKING (5) DEFORMED (6) SEPARATED (0) UNKNOWN	V343	44-45
LOCATION OF SEPARATION (3) NOT APPLICABLE (4) AT FLOOR (5) AT ADJUSTER (6) AT SEAT (0) UNKNOWN	V344	46
POSITION OF ADJUSTABLE SEAT DRIVER'S SEAT (3) NOT APPLICABLE (4) FORWARD (5) MIDDLE (6) REARWARD (0) UNKNOWN	V345	47

	PUNCH CODE	CARD COL.
RIGHT FRONT PASSENGER'S SEAT (3) NOT APPLICABLE (4) FORWARD (5) MIDDLE (6) REARWARD (0) UNKNOWN	V346	48
DAMAGE TO FRONT SEAT BACKREST DAMAGE (1,2,0)*	V347	49
CUSHION DAMAGE (1,2,0)*	V348	50
CONTACTED BY REAR OCCUPANT (1,2,3,0)*	V349	51
SEAT CENTER ARMRESTS (FRONT) EQUIPPED (1,2,0)*	V350	52
DAMAGED (1,2,3,0)*	V351	53
HEAD RESTRAINTS (FRONT) EQUIPPED (1,2,0)*	V352	54
REMOVED PRIOR TO COLLISION (1,2,3,0)*	V353	55
RETAINED DURING COLLISION (1,2,3,0)*	V354	56
DAMAGED (1,2,3,0)*	V355	57
OCCUPANT CONTACT (1,2,3,0)*	V356	58
HEAD RESTRAINT TYPE (3) NOT APPLICABLE (4) INTEGRATED (AS PART OF SEAT BACK) (5) ADJUSTABLE (0) UNKNOWN	V357	59
ADJUSTMENT AT TIME OF COLLISION (3) NOT APPLICABLE (4) UP (5) DOWN (0) UNKNOWN	V358	60
FRONT SEAT BACK LOCKS LEFT: EQUIPPED (1,2,0)*	V359	61
LEFT: HELD (1,2,3,0)*	V360	62
RIGHT: EQUIPPED (1,2,0)*	V361	63
RIGHT: HELD (1,2,3,0)*	V362	64

SEATS

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES, 2 FOR NO, 3 FOR NOT APPLICABLE, 0 FOR UNKNOWN

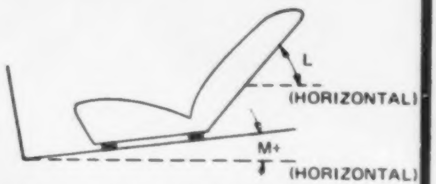
PASSENGER COMPARTMENT (CON'T,)

WINDOWS

SEATS

FRONT SEAT BACK ANGLE

IF SEAT BACK WAS DAMAGED, MEASURE THE FRONT SEAT BACK ANGLE AT THE LEFT AND RIGHT SEAT BACK FRAMES. (IF SEAT BACK ANGLE IS NORMALLY ADJUSTABLE, MOVE TO FORWARD POSITION)



MEASURE THE ANGLE THE SEAT BACK MAKES WITH HORIZONTAL (L IN DIAGRAM), AND THE ANGLE THE DOOR SILL MAKES WITH HORIZONTAL (M IN DIAGRAM) AND ENTER BELOW.

LEFT SIDE	RIGHT SIDE
L ____ DEG. M ____ DEG.	L ____ DEG. M ____ DEG'

SEAT BACK ROTATION

	DEGREES		PUNCH CODE	CARD COL.
	LEFT	RIGHT		
FINAL SEAT ANGLE (ENTER 99 IF UNKNOWN)				
SEAT ANGLE (L) (Relative to Ground)	—	—		
VEHICLE ANGLE (M)	—	—		
SEAT ANGLE (L-M=P) (Relative to Vehicle)	—	—		

FROM A CORRESPONDING UNDAMAGED VEHICLE, MAKE A MEASUREMENT SIMILAR TO "P" ABOVE AND RECORD IT IN BLANK "R" BELOW.

	LEFT	RIGHT	PUNCH CODE	CARD COL.
ORIGINAL ANGLE (R)	—	—		
DAMAGED SEAT ANGLE (P)	—	—		
DIFFERENCE (R-P)	—	—		
LEFT SEAT ANGLE DIFFERENCE			V363	65 66-67
RIGHT SEAT ANGLE DIFFERENCE			V364	68-69 70

TYPE OF REAR SEAT	PUNCH CODE	CARD COL.
(2) NO SEAT (4) NON-FOLDING (5) FOLDING (0) UNKNOWN	V365	71

END OF CARD 10

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 2 FOR NO 3 FOR NOT APPLICABLE 0 FOR UNKNOWN

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD		1/10 1/11
DAMAGE TO REAR SEAT	**PUNCH CODE**	**CARD COL.**
BACKREST DAMAGED OR LOOSENED (1,2,3,0)*	V366	12
CUSHION DAMAGED OR LOOSENED (1,2,3,0)*	V367	13
SEAT ARMRESTS (REAR)		
EQUIPPED (1,2,3,0)*	V368	14
DAMAGED (1,2,3,0)*	V369	15
REAR SEAT BACK LOCKS		
LEFT EQUIPPED (1,2,3,0)*	V370	16
LEFT HELD (1,2,3,0)*	V371	17
RIGHT EQUIPPED (1,2,3,0)*	V372	18
RIGHT HELD (1,2,3,0)*	V373	19
THIRD SEAT		
EQUIPPED (1,2,0)*	V374	20
BACKREST DAMAGED (1,2,3,0)*	V375	21
CUSHION DAMAGED (1,2,3,0)*	V376	22
BACKLIGHT (REAR WINDOW)		
DAMAGED (1,2,3,0)*	V377	23
POPPED OUT (1,2,3,0)**	V378	24
OCCUPANT CONTACT (1,2,3,0)*	V379	25
BACKLIGHT HEADER		
DAMAGED (1,2,3,0)*	V380	26
OCCUPANT CONTACT (1,2,3,0)*	V381	27
WINDOWS CLOSED AT TIME OF COLLISION		
LEFT FRONT BETWEEN LEFT A AND B PILLARS (1,2,3,0)*	V382	28
LEFT REAR BETWEEN LEFT B AND C PILLARS (1,2,3,0)*	V383	29
RIGHT FRONT BETWEEN RIGHT A AND B PILLARS (1,2,3,0)*	V384	30
RIGHT REAR BETWEEN RIGHT B AND C PILLARS (1,2,3,0)*	V385	31
BACKLIGHT (1,2,3,0)*	V386	32
ALL SIDE WINDOWS OPERABLE AFTER COLLISION (1,2,3,0)*	V387	33
POWER SIDE WINDOWS EQUIPPED (1,2,0)*	V388	34

(PUT NOTES IN REAR OF BOOK)

**CODE 2 IMPLIES A POP OUT TYPE OF BACKLIGHT THAT DIDN'T POP OUT. CODE 3 INDICATES NOT A POP OUT TYPE OF BACKLIGHT.

PASSENGER COMPARTMENT (CON'T)

LEFT SIDE INTERIOR		DAMAGED (1,2,3,0)* PUNCH CODE	DAMAGED (1,2,3,0)* CARD COL.	OCCUPANT CONTACT (1,2,3,0)* PUNCH CODE	OCCUPANT CONTACT (1,2,3,0)* CARD COL.
FRONT	DOOR	V389	35	V390	36
	HARDWARE	V391	37	V392	38
	ARMREST	V393	39	V394	40
	GLASS - BETWEEN LEFT A AND B PILLARS	V395	41	V396	42
REAR	DOOR	V397	43	V398	44
	HARDWARE	V399	45	V400	46
	ARMREST	V401	47	V402	48
	GLASS - BETWEEN LEFT B AND C PILLARS	V403	49	V404	50
GLASS BETWEEN LEFT C AND D PILLARS (STATION WAGONS AND LIMOSINES)		V405	51	V406	52
ROOF SIDE RAIL		V407	53	V408	54
B-PILLAR (ALSO REAR PILLAR ON PICK-UP TRUCK OR OTHER APPLICABLE)		V409	55	V410	56
C-PILLAR		V411	57	V412	58
D-PILLAR (REAR PILLAR ON STATION WAGONS & LIMOUSINES)		V413	59	V414	60
OTHER:		V415	61	V416	62
				END OF CARD 11	

LEFT SIDE INTERIOR

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

PASSENGER COMPARTMENT

RIGHT SIDE INTERIOR

ROOF INTERIOR

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD 1/10 2/11	DAMAGED (1,2,3,0)*		OCCUPANT CONTACT (1,2,3,0)*	
RIGHT SIDE INTERIOR	PUNCH CODE	CARD COL.	PUNCH CODE	CARD COL.
FRONT — DOOR	V417	12	V418	13
FRONT — HARDWARE	V419	14	V420	15
FRONT — ARMREST	V421	16	V422	17
FRONT — GLASS - BETWEEN RIGHT A AND B PILLARS	V423	18	V424	19
REAR — DOOR	V425	20	V426	21
REAR — HARDWARE	V427	22	V428	23
REAR — ARMREST	V429	24	V430	25
REAR — GLASS - BETWEEN RIGHT B AND C PILLARS	V431	26	V432	27
GLASS BETWEEN RIGHT C AND D PILLARS (STATION WAGONS AND LIMOSINES)	V433	28	V434	29
ROOF SIDE RAIL	V435	30	V436	31
B-PILLAR (ALSO REAR PILLAR ON PICK-UP TRUCK OR OTHER APPLICABLE)	V437	32	V438	33
C-PILLAR	V439	34	V440	35
D-PILLAR (REAR PILLAR ON STATION WAGONS & LIMOUSINES)	V441	36	V442	37
OTHER: ______	V443	38	V444	39
ROOF INTERIOR — HEADLINING	V445	40	V446	41
ROOF INTERIOR — ROOF STRUCTURE	V447	42	V448	43
			END OF CARD 12	

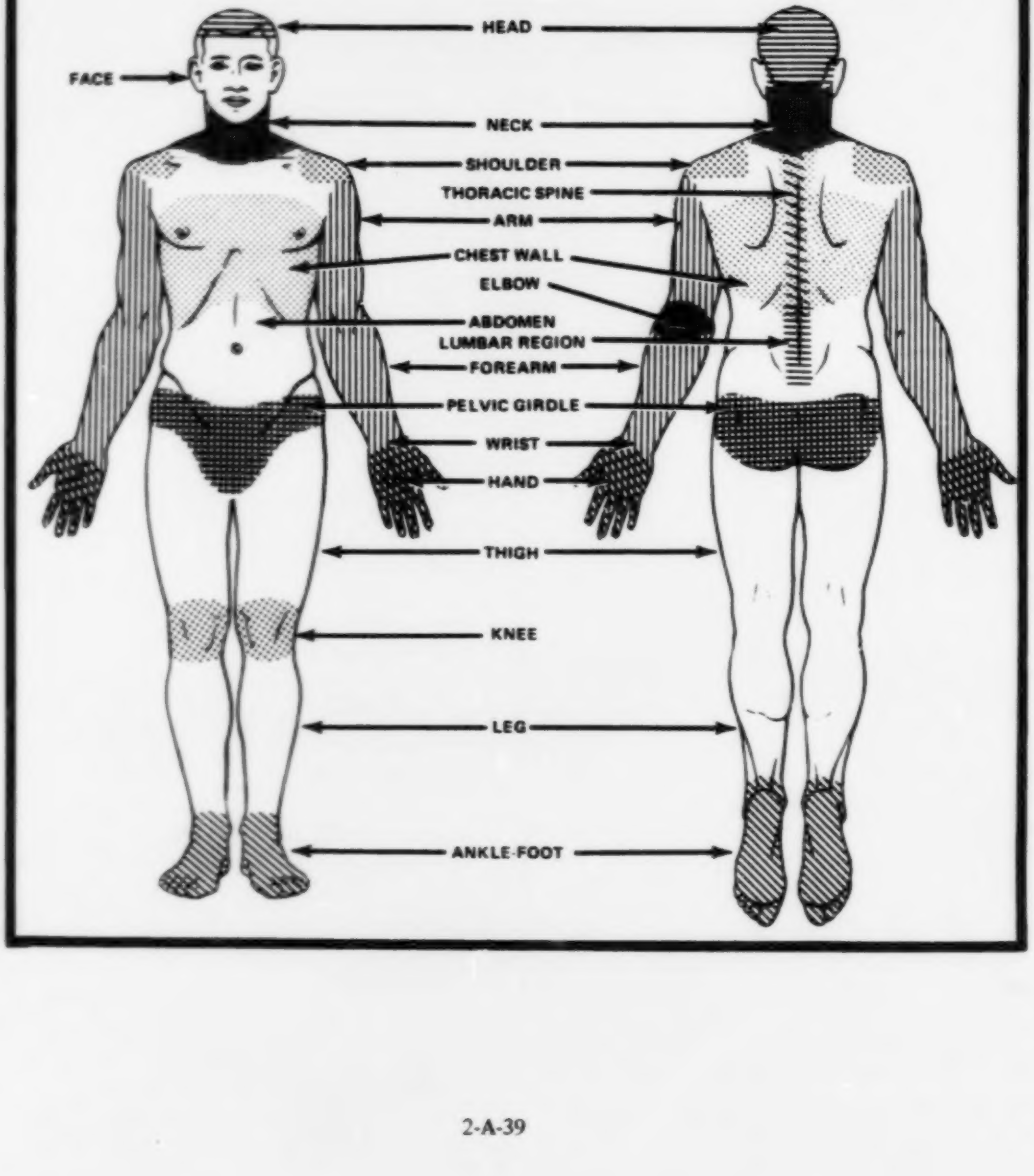
*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

OCCUPANT INFORMATION SECTION

1. This section will be filled in for each occupant, whether injured or not.
2. If there are more than five occupants, use additional blank copies of this form and attach occupant pages.
3. The illustrations on this page serve as an explanation of body regions listed on page 37

Instructions for using the Abbreviated Injury Scale (AIS) are as follows:

a. List each injury diagnosis beside diagram and connect injury diagnoses to anatomical location on diagram with a line.
b. Denote right or left side by adding capital letter R or L to diagnosis.
c. Select the most serious or major injury and identify with an asterisk (*). If there are more than one serious or major injuries, they may each be so indicated with an asterisk.
d. The overall AIS rating is a clinical estimate of the severity of all the injuries as related to the whole patient.
e. Leg length is the distance from the joint line of the knee to the distal end of the medial malleolus. Where there is a discrepancy of less than 2 cm or ¾ in., the difference can be disregarded.
f. Laceration length should be recorded with the diagnoses.
g. Major medical impairments are conditions, either diseases or injuries with permanent residual which have a signifcant effect on the ability of the patient to recover from injury, which impairs his ability to drive. Examples of such conditions are diabetes, past cerebro-vascular accidents malunited fractures of the lower extremity.



Occ No 1

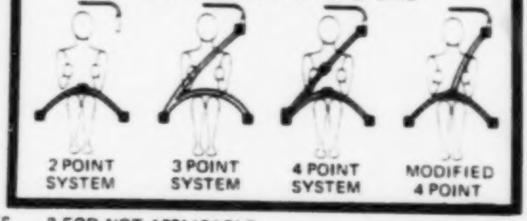
DRIVER INFORMATION

DRIVER INFORMATION

	PUNCH CODE	CARD COL.
DUPLICATE COLUMNS 1-9 FROM PRECEDING		$\frac{1}{10}$ $\frac{3}{11}$
OCCUPANT NUMBER	V449	12-13
SEAT LOCATION (4) FRONT (5) REAR (SECOND) (6) THIRD (STATION WAGON & LIMOSINES) (7) OTHER ____ (0) UNKNOWN	V450	14
POSITION ON SEAT (4) LEFT (5) LEFT CENTER (6) CENTER (7) RIGHT CENTER (8) RIGHT (0) UNKNOWN	V451	15
POSTURE (01) SITTING ON SEAT (02) ON LAP OR IN ARMS (03) STANDING ON SEAT (04) STANDING ON FLOOR (05) IN BASSINET (06) IN CHILD SEAT (07) LYING ON SEAT (08) LYING ON FLOOR (09) EXTERNAL TO PASS. COMP. (10) LYING ON FOLDED DOWN SEAT (11) OTHER: ____ [✓ (00)] UNKNOWN	V452	16-17
POSITION INSIDE VEHICLE (POST-CRASH) (3) NOT APPLICABLE (4) ON SEAT (5) ON FLOOR (6) PARTIALLY ON SEAT AND FLOOR (0) UNKNOWN	V453	18
AGE YEARS, OR MONTHS (INFANTS) (ENTER "0"S, IF UNKNOWN)	V454 V455	19-20 21-22
WEIGHT, Kg. (ENTER "0"S, IF UNKNOWN)	V456	23-24-25
HEIGHT, Cm. (ENTER "0"S, IF UNKNOWN)	V457	26-27-28
SEX (4) MALE (5) FEMALE (0) UNKNOWN	V458	29

	PUNCH CODE	CARD COL.
RESTRAINT SYSTEM		
LAP BELT		
EQUIPPED FOR THIS POSITION (1,2,0)*	V459	30
WORN BY OCCUPANT (1,2,3,0)*	V460	31
WORN SNUGGLY (1,2,3,0)*	V461	32
LOCKING RETRACTOR (1,2,3,0)*	V462	33
UPPER TORSO RESTRAINT		
EQUIPPED FOR THIS POSITION (1,2,0)*	V463	34
WORN BY OCCUPANT (1,2,3,0)*	V464	35
WORN CORRECTLY (1,2,3,0)*	V465	36
INERTIA REEL (1,2,3,0)*	V466	37
PASSIVE RESTRAINT BELT		
EQUIPPED FOR THIS POSITION (1,2,0)*	V467	38
WORN BY OCCUPANT (1,2,3,0)*	V468	39
WORN CORRECTLY (1,2,3,0)*	V469	40
IF ANY PART OF SYSTEM IS NOT ORIGINAL EQUIPMENT BY MANUFACTURER DESCRIBE SYSTEM ON PAGE 56.		
RESTRAINT SEPARATION		
BUCKLE (1,2,3,0)*	V470	41
WEBBING (1,2,3,0)*	V471	42
ANCHORAGE HARDWARE (1,2,3,0)*	V472	43
IF EQUIPPED WITH ATTENUATOR (AMORTISSEUR), WRITE IN THE NUMBER OF STRANDS SEPARATED	V473	44-45
IF THE LAP AND/OR SHOULDER BELT WAS WORN, TRACE THE OUTLINE OF THE TAB END HARDWARE ON THE BACK COVER & LABEL IT		
TYPE OF SYSTEM USED (3) NOT APPLICABLE (4) 3-POINT (5) 4-POINT (6) MODIFIED 4 POINT (7) OTHER ____ (0) UNKNOWN	V474	46

TYPICAL RESTRAINT SYSTEMS



*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

Occ No 1 [illegible]

DRIVER INFORMATION

EJECTION	PUNCH CODE	CARD COL.
DEGREE OF EJECTION (2) NONE (4) PARTIAL (5) COMPLETE (0) UNKNOWN	V475	47
AREA OF EJECTION (3) NOT APPLICABLE (1) WINDOW, LEFT SIDE (2) WINDOW, RIGHT SIDE (4) WINDOW, REAR (5) DOOR, LEFT SIDE (6) DOOR, RIGHT SIDE (7) TAILGATE OR BACKLIGHT (8) WINDSHIELD (9) ROOF OR OPEN CONVERTIBLE (0) UNKNOWN	V476	48
FIRST AID (3) NOT APPLICABLE (4) PROPER (5) IMPROPER (6) INSUFFICIENT (0) UNKNOWN	V481	49
FIRST AID TREATMENT AT SCENE (BY WHOM) (3) NOT APPLICABLE (1) MEDICAL DOCTOR (4) POLICE OFFICER (5) PASSER-BY (6) AMBULANCE ATTENDANT (0) UNKNOWN	V482	50
TYPE OF EMERGENCY VEHICLE USED (3) NOT APPLICABLE (1) COMMERCIAL AMBULANCE (4) RESCUE SQUAD (5) HOSPITAL BASED AMBULANCE (6) STATION WAGON EMERGENCY VEHICLE (7) PASSER-BY AUTOMOBILE (8) HEARSE-AMBULANCE (9) OTHER: ____________ (0) UNKNOWN	V483	51
TRAINING OF AMBULANCE ATTENDANTS (Choose no more than 2) (2) NONE (3) NOT APPLICABLE (4) RED CROSS FIRST AID (5) MILITARY MEDICAL CORPSMAN (6) EMERGENCY MEDICAL TECHNICIAN (7) OTHER: ____________ (0) UNKNOWN	V484 V485	52 53

POST CRASH RESCUE	PUNCH CODE	CARD COL.
EXTRICATION OF OCCUPANTS REQUIRED (1,2,3,0)*	V486	54
EXTRICATION EQUIPMENT USED (CHOOSE NO MORE THAN THREE) (3) NOT APPLICABLE (1) LIFTING (Hydraulic Jacks, Etc.) (4) PRYING (5) BATTERING (6) PULLING (7) CUTTING (8) DISASSEMBLY (0) UNKNOWN	V487 V488 V489	55 56 57
TIME REQUIRED FOR EXTRICATION (3) NOT APPLICABLE (1) LESS THAN 15 MINUTES (2) 16-30 MINUTES (4) 31-60 MINUTES (5) OVER 60 MINUTES	V490	58
FIRE CONTROL EQUIPMENT USED (Extinguisher, Water, Sand, Etc.) (1,2,3,0)* DESCRIBE: ____________	V491	59
SUBMERSION EQUIPMENT USED (Underwater Breathing Gear, Boats, Etc.) (1,2,3,0)* DESCRIBE: ____________	V492	60
FIRE PROTECTION EQUIPMENT USED (Masks, Gloves, Blankets, Etc.) (1,2,3,0)* DESCRIBE: ____________	V493	61
STATUS OF TRAUMATIC INJURIES (00) NONE (01) FIRST AID AT SCENE (02) TREATED AT HOSPITAL/ CLINIC BUT NOT ADMITTED (03) HOSPITALIZED (Observation Less Than 24 Hours) (04) HOSPITALIZED FOR SIGNIFICANT TREATMENT (05) FATAL - DEAD AT SCENE (06) FATAL - DOA (07) FATAL - DEAD WITHIN 24 HRS (08) FATAL - DEAD 24 HRS. - 1 YR. (09) FATAL - DEAD, PERIOD UNKNOWN [✓ (99)] UNKNOWN 10 Blue Book First Aid	V477	62-63
STATUS OF NON-TRAUMATIC MEDICAL CONDITION (0) NONE (1) DEAD (Clinical Death Before Crash, Heart Attack, Medical Complications, Etc.) (2) NON-FATAL (Heart Attack, Stroke, Etc.) [✓ (3)] UNKNOWN	V478	64

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED USE 1 FOR YES / 2 FOR NO / 3 FOR NOT APPLICABLE / 0 FOR UNKNOWN

inconsistent [illegible]

Occ No 1

DRIVER INFORMATION

	PUNCH CODE	CARD COL.
OVERALL SEVERITY OF INJURIES (See Page 55) (00) NONE (01) MINOR (02) NON-DANGEROUS, MODERATE (03) NON-DANGEROUS, SEVERE (04) DANGEROUS, SERIOUS (05) DANGEROUS, CRITICAL (06) FATAL LESION PLUS 1 REGION WITH SEVERE OR LESS (07) FATAL LESION PLUS 1 REGION WITH SERIOUS OR CRITICAL (08) FATAL LESIONS IN 2 REGIONS (09) FATAL LESIONS IN 3 OR MORE REGIONS (10) FATAL BUT DETAILS UNKNOWN (98) PRESENCE OF INJURY UNKNOWN (99) INJURED, BUT DETAILS UNKNOWN	V479 _ _	65-66
AUTOPSY (1,2,3,0)*	V480 _	67
	END OF CARD 13	
DUPLICATE CARD COLUMNS 1-9 FROM PRECEDING CARD	7 10	5 11
TRIP PLAN ORIGIN (1) HOME (2) WORK (3) SHOPPING (4) RECREATIONAL (5) BUSINESS LOCATION OTHER THAN WORK (6) OTHER: ________ (0) UNKNOWN	—	12
TIME LEFT (USE 2400 HOUR CLOCK) (ENTER 9999 IF UNKNOWN)	PUNCH _ _ _ _ 13 14 15 16	
TIME OF IMPACT (USE 2400 HOUR CLOCK) (ENTER 9999 IF UNKNOWN)	_ _ _ _ 17 18 19 20	
DESTINATION (1) HOME (2) WORK (3) SHOPPING (4) RECREATIONAL (5) BUSINESS LOCATION OTHER THAN WORK (6) OTHER: ________ (0) UNKNOWN	PUNCH CODE —	CARD COL. 21

	PUNCH CODE	CARD COL.
ROUTE FAMILIARITY (1,2,0)*	—	22
AREA FAMILIARITY (1,2,0)*	—	23
DRIVER EDUCATION COURSE (1,2,0)*	—	24
DRIVING EXPERIENCE (KILOMETERS/MONTH) (ENTER 9999 IF UNKNOWN)	PUNCH _ _ _ _ 25 26 27 28	
PSYCHOLOGICAL STRESS THAT DAY (CHOOSE NO MORE THAN TWO) (1) NONE (2) ARGUMENT WITH SPOUSE, PARENT, SIBLING, ETC. (3) ARGUMENT WITH BOSS OR CO-WORKER (4) LOSS OF FRIEND OR RELATIVE (5) FINANCIAL DIFFICULTY (6) SCHOOL PROBLEMS (7) WORK PROBLEMS (8) PROBLEM WITH ANY LEGAL TYPE AGENCIES (POLICE, ETC.) (9) OTHER: ________ (0) UNKNOWN	PUNCH CODE — —	CARD COL 29 30
TYPICAL PSYCHOLOGICAL STATE (1) PASSIVE, QUIET (2) AGGRESSIVE (HOSTILE, EXPLOSIVE) (3) PERFECTIONISTIC (4) ANTI-AUTHORITARIAN (5) ALCOHOLIC (6) NORMAL (7) PSYCHOTIC (8) DEPRESSED (9) OTHER: ________ (0) UNKNOWN	—	31
DRIVER'S APPRAISAL COULD ACCIDENT HAVE BEEN PREVENTED (1,2,0)*	—	32

*WHERE (1,2,0) IS INDICATED, USE 1 FOR YES 2 FOR NO
0 FOR UNKNOWN 3 NOT APPLICABLE

Dec No 1

DRIVER INFORMATION

	PUNCH CODE	CARD COL
PHYSIOLOGICAL PROBLEMS (1) NONE (2) BRAIN (EPILEPSY, MENTAL RETARDATION, ETC.) (3) CARDIO-VASCULAR (HEART FAILURE, ANGINA INFARCTION) (4) DIABETES (5) VISUAL (6) MUSCULAR COORDINATION PROBLEM (7) OTHER MEDICAL HISTORY PROBLEM (0) UNKNOWN	—	33
INTERVIEWER'S APPRAISAL OF DRIVER OR INFORMANT (1) VERY RELIABLE (2) RELIABLE (3) UNRELIABLE (4) VERY UNRELIABLE	—	34
MARITAL STATE (1) SINGLE (2) MARRIED (3) DIVORCED (4) SEPARATED (5) WIDOWED (6) DIVORCED AND REMARRIED (7) BIGAMIST (0) UNKNOWN	—	35
ALCOHOL DRINKING PATTERN (1) ALCOHOLIC (2) BINGE DRINKER (3) SOCIAL DRINKER (4) ABSTAINER (0) UNKNOWN	—	36
BLOOD LEVEL ALCOHOL AT TIME OF CRASH (mg %) (EXAMPLE: 0.150%/VOL., = 150 mg. %) (ENTER 999 IF USE OF ALCOHOL IS UNKNOWN) (ENTER 998 IF ALCOHOL WAS USED BUT LEVEL UNKNOWN)	— — —	37 38 39
BLOOD SAMPLE (1,2,3,0)	—	40
BREATHALYSER (1,2,3,0)	—	41
REFUSED TEST (1,2,3,0)*	—	42
	END OF CARD 75	

CODES FOR AREAS OF OCCUPANT CONTACT

(USE THESE CODES ON PAGE 37)

FRONT OF PASSENGER COMPARTMENT
(05) INSTRUMENT PANEL
(09) STEERING ASSEMBLY
(12) WINDSHIELD
(02) GLOVE COMPARTMENT AREA
(03) HARDWARE ITEMS (ASHTRAY, INSTRUMENTS, KNOBS, ETC.)
(04) HEATER OR AC DUCTS
(01) AIR CONDITIONING OR VENTILATION OUTLETS
(06) MIRRORS
(07) PARKING BRAKE
(08) RADIO
(10) SUNVISORS & FITTINGS, AND/OR TOP MOLDING (HEADER)
(11) TRANSMISSION SELECTOR LEVER

SIDES
(20) SURFACE OF SIDE INTERIORS
(19) HARDWARE
(13) ARMRESTS
(22) WINDOW GLASS
(21) WINDOW FRAMES
(14) A-PILLAR
(15) B-PILLAR
(16) C-PILLAR
(17) D-PILLAR
(18) COURTESY LIGHTS

INTERIOR
(29) BACK OF SEATS
(33) RESTRAINT SYSTEM HARDWARE
(34) RESTRAINT SYSTEM WEBBING
(30) HEAD RESTRAINTS
(32) OTHER OCCUPANTS
(31) INTERIOR LOOSE OBJECT

ROOF
(26) ROOF SIDE RAILS
(10) SUNVISORS & FITTINGS AND/OR TOP MOLDING (HEADER)
(25) ROOF OR CONVERTIBLE TOP
(24) COAT HOOKS

FLOOR
(11) TRANSMISSION SELECTOR LEVER
(40) FLOOR
(28) FOOT CONTROLS
(27) CONSOLE

REAR
(23) BACKLIGHT (REAR WINDOW)
(39) BACKLIGHT HEADER

EXTERIOR TO PASSENGER COMPARTMENT
(35) HOOD
(36) OBJECTS EXTERIOR TO CAR
(37) OUTSIDE SURFACE OF CAR

(38) OTHER: ____________________
(MAY INDICATE MORE THAN ONE ITEM)

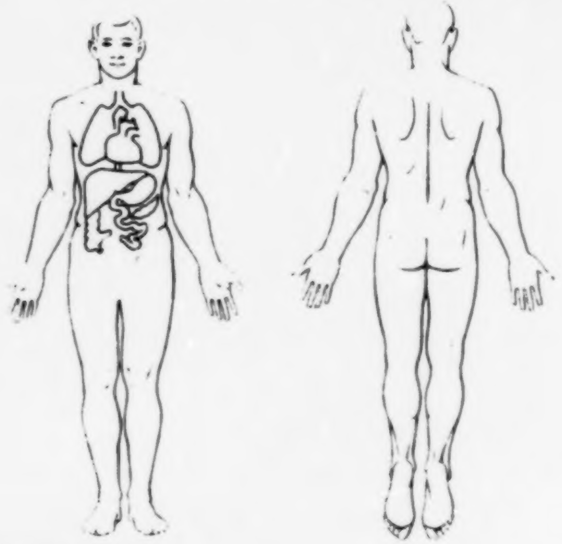
(00) UNKNOWN

Occ No 1

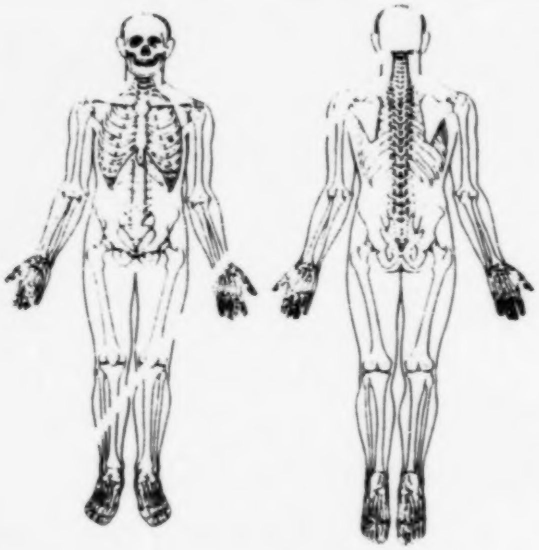
DRIVER INFORMATION

DRIVER INFORMATION

INDICATE LOCATION OF INJURIES, INCLUDING MAJOR BRUISES



SOFT TISSUE INJURIES



SKELETAL INJURIES

Source of Information ______________________

LEFT SIDE

DIAGNOSES	AIS RATINGS
______________________	☐
______________________	☐
______________________	☐
______________________	☐
______________________	☐
______________________	☐
______________________	☐
______________________	☐

RIGHT SIDE

DIAGNOSES	AIS RATING
______________________	☐
______________________	☐
______________________	☐
______________________	☐
______________________	☐
______________________	☐
______________________	☐
______________________	☐

MAJOR MEDICAL IMPAIRMENTS

____

____

____

____

____

____

LEG LENGTHS

RIGHT ______________________

LEFT ______________________

TIBIAL LENGTHS

RIGHT ______________________

LEFT ______________________

Occ No 1

DRIVER INFORMATION

				★ENTER CODE(S) FOR AREA(S) OF POSSIBLE CONTACT V				ENTER SEVERITY CODES												
	CARD NUMBER	OCCUPANT NO V494	BODY REGION					OVERALL INJURY TO REGION	CONCUSSION	LACERATION	ABRASION	BRUISE	SPRAIN/STRAIN	FRACTURE	DISLOCATION	AVULSION	HEMORRHAGE	BURN	COMPLAINTS OF PAIN	OTHER
1-9	10-11	12-13		14-15	16-17	18-19	20-21	22	23	24	25	26	27	28	29	30	31	32	33	34
DUPLICATE FROM PRECEDING CARD	14		Scalp & Vault of Skull	V495	V496	V497	V498	V499	V500	V501	V502	V503	V504	V505	V506	V507	V508	V509	V510	V511
	15		Brain & Base of Skull																	
	16		Face																	
	17		Neck																	
	18		Thoracic Spine																	
	19		Chest Wall																	
	20		(a) Lungs																	
	21		(b) Heart & Mediastinum																	
	22		Abdominal Wall																	
	23		(a) Liver																	
	24		(b) Spleen																	
	25		(c) Kidneys & Ureters																	
	26		(d) Other																	
	27		Lower Back																	
	28		R Shoulder & Arm																	
	29		R Elbow																	
	30		R Forearm																	
	31		R Wrist-Hand																	
	32		L Shoulder & Arm																	
	33		L Elbow																	
	34		L Forearm																	
	35		L Wrist, Hand																	
	36		Pelvis *																	
	37		R Hip & Thigh																	
	38		R Knee																	
	39		R Leg																	
	40		R Ankle, Foot																	
	41		L Hip & Thigh																	
	42		L Knee																	
	43		L Leg																	
	44		L Ankle, Foot																	
	45		Other																	

* INCLUDING SACRUM, COCCYX, CENTRAL DISLOCATION OF HIP JOINT AND PELVIC CONTENTS

DRIVER INFORMATION

OCCUPANT INJURY DETAIL

1. This page is only for the occupant just described.
2. Enter occupant number from page 32. (This refers only to the order in which occupant information is entered and is not related to seated position.)
3. Enter severity code (only one per box) for each type of injury to each body region. (Mark boxes with 1-6, X, Z only, as instructed.)
4. Do not fill in the boxes where there was no injury.
5. If you are reasonably assured that one or more specific components or area(s) contacted by this occupant resulted in an associable injury, enter the proper code(s) in the starred (★) section. (See Page 35 for codes.)
6. Do not fill in the boxes where there was no contact.

Occ No 2

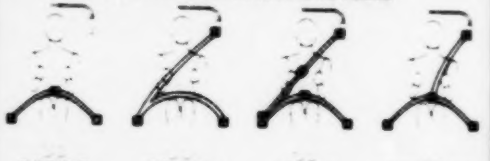
OCCUPANT INFORMATION

OCCUPANT INFORMATION

DUPLICATE COLUMNS 1-9 FROM PRECEDING		1/10 3/11
	PUNCH CODE	CARD COL.
OCCUPANT NUMBER	— —	12-13
SEAT LOCATION (4) FRONT (5) REAR (SECOND) (6) THIRD (STATION WAGON & LIMOSINES) (7) OTHER ________ (0) UNKNOWN	—	14
POSITION ON SEAT (4) LEFT (5) LEFT CENTER (6) CENTER (7) RIGHT CENTER (8) RIGHT (0) UNKNOWN	—	15
POSTURE (01) SITTING ON SEAT (02) ON LAP OR IN ARMS (03) STANDING ON SEAT (04) STANDING ON FLOOR (05) IN BASSINET (06) IN CHILD SEAT (07) LYING ON SEAT (08) LYING ON FLOOR (09) EXTERNAL TO PASS. COMP. (10) LYING ON FOLDED DOWN SEAT (11) OTHER: ________ (00) UNKNOWN	— —	16-17
POSITION INSIDE VEHICLE (POST-CRASH) (3) NOT APPLICABLE (4) ON SEAT (5) ON FLOOR (6) PARTIALLY ON SEAT AND FLOOR (0) UNKNOWN	—	18
AGE YEARS, OR MONTHS (INFANTS) (ENTER "0"S, IF UNKNOWN)	— — — —	19-20 21-22 *
WEIGHT, Kg. (ENTER "0"S, IF UNKNOWN)	— — —	23-24-25
HEIGHT, Cm. (ENTER "0"S, IF UNKNOWN)	— — —	26-27-28
SEX (4) MALE (5) FEMALE (0) UNKNOWN	—	29

RESTRAINT SYSTEM	PUNCH CODE	CARD COL
LAP BELT		
EQUIPPED FOR THIS POSITION (1,2,0)*	—	30
WORN BY OCCUPANT (1,2,3,0)*	—	31
WORN SNUGGLY (1,2,3,0)*	—	32
LOCKING RETRACTOR (1,2,3,0)*	—	33
UPPER TORSO RESTRAINT		
EQUIPPED FOR THIS POSITION (1,2,0)*	—	34
WORN BY OCCUPANT (1,2,3,0)*	—	35
WORN CORRECTLY (1,2,3,0)*	—	36
INERTIA REEL (1,2,3,0)*	—	37
PASSIVE RESTRAINT BELT		
EQUIPPED FOR THIS POSITION (1,2,0)*	—	38
WORN BY OCCUPANT (1,2,3,0)*	—	39
WORN CORRECTLY (1,2,3,0)*	—	40
IF ANY PART OF SYSTEM IS NOT ORIGINAL EQUIPMENT BY MANUFACTURER DESCRIBE SYSTEM ON PAGE 56		
RESTRAINT SEPARATION		
BUCKLE (1,2,3,0)*	—	41
WEBBING (1,2,3,0)*	—	42
ANCHORAGE HARDWARE (1,2,3,0)*	—	43
IF EQUIPPED WITH ATTENUATOR (AMORTISSEUR), WRITE IN THE NUMBER OF STRANDS SEPARATED	— —	44-45
IF THE LAP AND/OR SHOULDER BELT WAS WORN, TRACE THE OUTLINE OF THE TAB END HARDWARE ON THE BACK COVER & LABEL IT		
TYPE OF SYSTEM USED (3) NOT APPLICABLE (4) 3 POINT (5) 4 POINT (6) MODIFIED 4 POINT (7) OTHER ________ (0) UNKNOWN	—	46
CHILD RESTRAINT SYSTEM IN USE (1,2,3,0)* NOTE MAKE AND MODEL NUMBER ________	V494	47

TYPICAL RESTRAINT SYSTEMS



2 POINT SYSTEM — 3 POINT SYSTEM — 4 POINT SYSTEM — MODIFIED 4 POINT

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES, 2 FOR NO, 3 FOR NOT APPLICABLE, 0 FOR UNKNOWN

Occ No 2

V97 [illegible]

OCCUPANT INFORMATION

EJECTION	PUNCH CODE	CARD COL.
DEGREE OF EJECTION		
(2) NONE		
(4) PARTIAL		
(5) COMPLETE		
(0) UNKNOWN	V512	48
AREA OF EJECTION		
(3) NOT APPLICABLE		
(1) WINDOW, LEFT SIDE		
(2) " , RIGHT SIDE		
(4) " , REAR		
(5) DOOR, LEFT SIDE		
(6) " , RIGHT SIDE		
(7) TAILGATE OR BACKLIGHT		
(8) WINDSHIELD		
(9) ROOF OR OPEN CONVERTIBLE		
(0) UNKNOWN	V513	49
STATUS OF TRAUMATIC INJURIES		
(00) NONE		
(01) FIRST AID AT SCENE		
(02) TREATED AT HOSPITAL/ CLINIC BUT NOT ADMITTED		
(03) HOSPITALIZED (OBSERVATION LESS THAN 24 HRS		
(04) HOSPITALIZED FOR SIGNIFICANT TREATMENT		
(05) FATAL – DEAD AT SCENE		
(06) FATAL – DOA		
(07) FATAL – DEAD WITHIN 24 HRS		
(08) FATAL – DEAD 24 HRS-1 YR		
(09) FATAL – DEAD - PERIOD UNKNOWN	V514	50-51
(99) UNKNOWN		
STATUS OF NON-TRAUMATIC MEDICAL CONDITION		V4
(0) NONE		
(1) DEAD (CLINICAL DEATH		
(2) NON-FATAL (HEART ATTACK, STROKE, ETC.)	V515	52
(3) UNKNOWN		
OVERALL SEVERITY OF INJURIES (SEE PAGE 55)		
(00) NONE		
(01) MINOR		
(02) NON-DANGEROUS, MODERATE		
(03) NON-DANGEROUS, SEVERE		
(04) DANGEROUS, SERIOUS		
(05) DANGEROUS, CRITICAL		
(06) FATAL LESION PLUS 1 REGION WITH SEVERE OR LESS		
(07) FATAL LESION PLUS 1 REGION WITH SERIOUS OR CRITICAL		
(08) FATAL LESIONS IN 2 REGIONS		
(09) FATAL LESIONS IN 3 OR MORE REGIONS		
(10) FATAL, BUT DETAILS UNKNOWN		
(98) PRESENCE OF INJURY UNKNOWN	V516	53-54
(99) INJURED, BUT DETAILS UNKNOWN		
AUTOPSY (1,2,3,0)*	V517	55
	END OF CARD	

*WHERE (1,2,0) IS INDICATED, USE
1 FOR YES 2 FOR NO
0 FOR UNKNOWN

CODES FOR AREAS OF OCCUPANT CONTACT
(USE THESE CODES ON PAGE 41)

FRONT OF PASSENGER COMPARTMENT
(05) INSTREMENT PANEL
(09) STEERING ASSEMBLY
(12) WINDSHIELD
(02) GLOVE COMPARTMENT AREA
(03) HARDWARE ITEMS (ASHTRAY, INSTRUMENTS, KNOBS, ETC.)
(04) HEATER OR AC DUCTS
(01) AIR CONDITIONING OR VENTILATION OUTLETS
(06) MIRRORS
(07) PARKING BRAKE
(08) RADIO
(10) SUNVISORS & FITTINGS, AND/OR TOP MOLDING (HEADER)
(11) TRANSMISSION SELECTOR LEVER

SIDES
(20) SURFACE OF SIDE INTERIORS
(19) HARDWARE
(13) ARMRESTS
(22) WINDOW GLASS
(21) WINDOW FRAMES
(14) A-PILLAR
(15) B-PILLAR
(16) C-PILLAR
(17) D-PILLAR
(18) COURTESY LIGHTS

INTERIOR
(29) BACK OF SEATS
(33) RESTRAINT SYSTEM HARDWARE
(34) RESTRAINT SYSTEM WEBBING
(30) HEAD RESTRAINTS
(32) OTHER OCCUPANTS
(31) INTERIOR LOOSE OBJECT

ROOF
(26) ROOF SIDE RAILS
(10) SUNVISORS & FITTINGS AND/OR TOP MOLDING (HEADER)
(25) ROOF OR CONVERTIBLE TOP
(24) COAT HOOKS

FLOOR
(11) TRANSMISSION SELECTOR LEVER
(40) FLOOR
(28) FOOT CONTROLS
(27) CONSOLE

REAR
(23) BACKLIGHT (REAR WINDOW)
(39) BACKLIGHT HEADER

EXTERIOR TO PASSENGER COMPARTMENT
(35) HOOD
(36) OBJECTS EXTERIOR TO CAR
(37) OUTSIDE SURFACE OF CAR

(38) OTHER
(MAY INDICATE MORE THAN ONE ITEM)

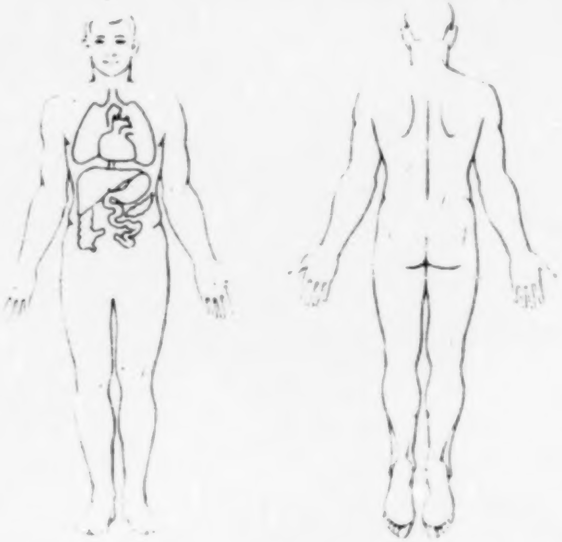
(00) UNKNOWN

Occ No 2

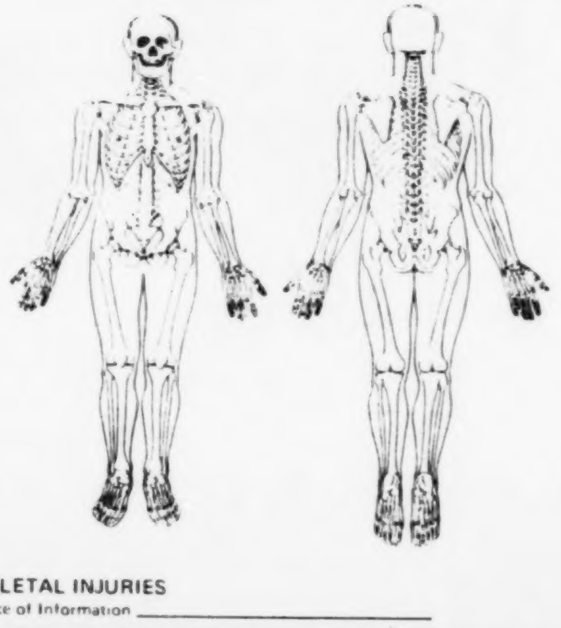
OCCUPANT INFORMATION

OCCUPANT INFORMATION

INDICATE LOCATION OF INJURIES, INCLUDING MAJOR BRUISES



SOFT TISSUE INJURIES



SKELETAL INJURIES

Source of Information ____________________

LEFT SIDE

DIAGNOSES — AIS RATING

____________________ ☐
____________________ ☐
____________________ ☐
____________________ ☐
____________________ ☐
____________________ ☐
____________________ ☐
____________________ ☐

RIGHT SIDE

DIAGNOSES — AIS RATING

____________________ ☐
____________________ ☐
____________________ ☐
____________________ ☐
____________________ ☐
____________________ ☐
____________________ ☐
____________________ ☐

MAJOR MEDICAL IMPAIRMENTS

____
____
____
____
____
____

LEG LENGTHS
RIGHT ____________________
LEFT ____________________

TIBIAL LENGTHS
RIGHT ____________________
LEFT ____________________

Occ No 2

OCCUPANT INFORMATION

	CARD NUMBER	OCCUPANT NO	BODY REGION	★ENTER CODE(S) FOR AREA(S) OF POSSIBLE CONTACT				ENTER SEVERITY CODES												
								OVERALL INJURY TO REGION	CONCUSSION	LACERATION	ABRASION	BRUISE	SPRAIN/STRAIN	FRACTURE	DISLOCATION	AVULSION	HEMORRHAGE	BURN	COMPLAINTS OF PAIN	OTHER
1-9	10-11	12-13		14-15	16-17	18-19	20-21	22	23	24	25	26	27	28	29	30	31	32	33	34
DUPLICATE FROM PRECEDING CARD	14		Scalp & Vault of Skull																	
	15		Brain & Base of Skull																	
	16		Face																	
	17		Neck																	
	18		Thoracic Spine																	
	19		Chest Wall																	
	20		(a) Lungs																	
	21		(b) Heart & Mediastinum																	
	22		Abdominal Wall																	
	23		(a) Liver																	
	24		(b) Spleen																	
	25		(c) Kidneys & Ureters																	
	26		(d) Other																	
	27		Lower Back																	
	28		R Shoulder & Arm																	
	29		R Elbow																	
	30		R Forearm																	
	31		R Wrist-Hand																	
	32		L Shoulder & Arm																	
	33		L Elbow																	
	34		L Forearm																	
	35		L Wrist, Hand																	
	36		Pelvis*																	
	37		R Hip & Thigh																	
	38		R Knee																	
	39		R Leg																	
	40		R Ankle, Foot																	
	41		L Hip & Thigh																	
	42		L Knee																	
	43		L Leg																	
	44		L Ankle, Foot																	
	45		Other																	

* INCLUDING SACRUM, COCCYX, CENTRAL DISLOCATION OF HIP JOINT AND PELVIC CONTENTS

OCCUPANT INFORMATION

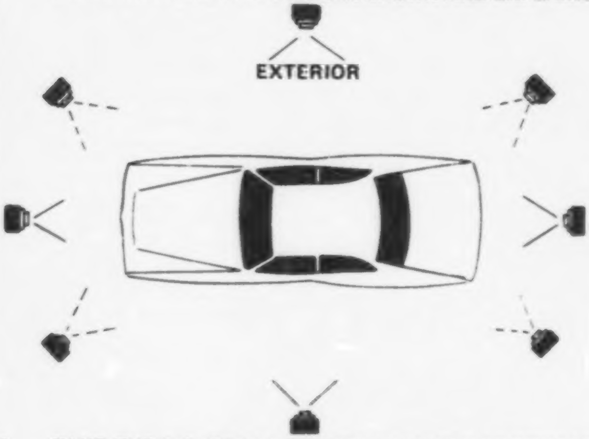
OCCUPANT INJURY DETAIL

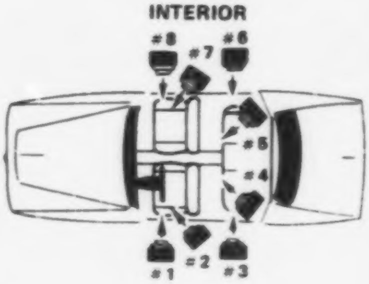
1. This page is only for the occupant just described.
2. Enter occupant number from page 38. (This refers only to the order in which occupant information is entered and is not related to seated position.)
3. Enter severity code (only one per box) for each type of injury to each body region. (Mark boxes with 1-6, X, Z only, as instructed.)
4. Do not fill in the boxes where there was no injury.
5. If you are reasonably assured that one or more specific components or area(s) contacted by this occupant resulted in an associable injury, enter the proper code(s) in the starred (★) section. (See Page 39 for codes.)
6. Do not fill in the boxes where there was no contact.

COLOR PHOTOGRAPHS TO BE TAKEN OF CASE VEHICLE BY FIELD INVESTIGATOR

PHOTO RECORDS ARE ESSENTIAL BECAUSE, IF DATA INTEREST SHIFTS TO OTHER AREAS NOT LISTED ON THE FORM. PHOTO INTERPRETATION CAN UPDATE THE REPORT. THEY ALSO VERIFY THE REPORTED DATA. IT IS RECOMMENDED THAT YOU USE AT LEAST ONE 20-EXPOSURE ROLL OF COLOR FILM (SLIDES PREFERRED) ON THE VEHICLE.

1. FOR A COMPLETE PHOTOGRAPHIC RECORD OF THE CASE VEHICLE, IT IS RECOMMENDED THAT DESCRIPTIVE PHOTOGRAPHS OF THE INSIDE AND OUTSIDE OF THE VEHICLE BE TAKEN FROM THE CAMERA POSITIONS SHOWN AND EXPLAINED BELOW:





2. TAKE THE 8 OVERALL EXTERIOR PHOTOS AS INDICATED ABOVE (LEFT). ALL VIEWS SHOULD SHOW THE ENTIRE VEHICLE, AS SEEN FROM EACH POSITION.
3. TAKE THE 8 INTERIOR PHOTOS FROM THE POSITIONS INDICATED ABOVE (RIGHT). THESE VIEWS SHOULD SHOW THE INTERIOR COMPONENTS LISTED BELOW:

#1,8	OPPOSITE SIDE: DOOR OR INTERIOR PANELS SIDE ROOF RAIL SEAT	#4	RIGHT SIDE: WINDSHIELD HEADER A–PILLAR INSTRUMENT PANEL
#2	LEFT SIDE: INSTRUMENT PANEL STEERING WHEEL WINDSHIELD	#5	LEFT SIDE: WINDSHIELD HEADER A–PILLAR STEERING WHEEL
#3,6	OPPOSITE SIDE: DOOR OR INTERIOR PANELS SIDE ROOF RAIL SEAT	#7	RIGHT SIDE: INSTRUMENT PANEL WINDSHIELD

4. TAKE A CLOSEUP VIEW OF THE STEERING ASSEMBLY ENERGY ABSORBING DEVICE AND/OR SHEAR CAPSULES (SEE PAGE 18) FROM THE RIGHT FRONT SIDE OF THE PASSENGER COMPARTMENT, IF POSSIBLE.
5. EXTRA PHOTOS SHOULD BE TAKEN OF EACH DAMAGED AREA AND ALL OCCUPANT CONTACT AREAS AT ANGLES DIFFERENT FROM THOSE IN THE ABOVE PHOTOS.
6. IF THE VEHICLE WAS REAR IMPACTED, THE FUEL TANK SHOULD BE PHOTOGRAPHED WHETHER DAMAGED OR NOT.
7. PHOTOGRAPHIC COVERAGE OF OTHER ITEMS YOU CONSIDER IMPORTANT OR INTERESTING IS ENCOURAGED.

SEVERITY CODE	SEVERITY CATEGORY/INJURY DESCRIPTION	POLICE CODE
0 (Zero)	NO INJURY	0 or O
1	MINOR	C
	GENERAL –Aches all over –Minor lacerations, contusions, and abrasions (first aid–simple closure). –All 1° or small 2° or small 3° burns. HEAD AND NECK –Cerebral injury with headache, dizziness, no loss of consciousness. –"Whiplash" complaint with no anatomical or radiological evidence. –Abrasions and contusions of ocular apparatus (lids, conjunctiva, cornea, uveal injuries); vitreous or retinal hemorrhage. –Fracture and/or dislocations of teeth. CHEST –Muscle ache or chest wall stiffness. ABDOMINAL AND PELVIC CONTENTS –Muscle ache, seat belt abrasion, etc. EXTREMITIES –Minor sprains and fractures and/or dislocation of digits.	
2	MODERATE	B
	GENERAL –Extensive contusions; abrasions; large lacerations; avulsions (less than 3" wide). –10-20% body surface 2° or 3° burns. HEAD AND NECK –Cerebral injury with or without skull fracture, less than 15 minutes unconsciousness. –Undisplaced skull or facial bone fractures or compound fracture of nose. –Lacerations of the eye and appendages; retinal detachment. –Disfiguring lacerations. –"Whiplash"—severe complaints with anatomical or radiological evidence. CHEST –Simple rib or sternal fractures. –Major contusions of chest wall without hemothorax or pneumothorax or respiratory embarrassment. ABDOMINAL AND PELVIC CONTENTS –Major contusion of abdominal wall. EXTREMITIES AND/OR PELVIC GIRDLE –Compound fractures of digits. –Undisplaced long bone or pelvic fractures. –Major sprains of major joints.	
3	SEVERE (Not Life-Threatening)	B
	GENERAL –Extensive contusions; abrasions; large lacerations involving more than two extremities, or large avulsions (greater than 3" wide). –20-30% body surface 2° or 3° burns. HEAD AND NECK –Cerebral injury with or without skull fracture, with unconsciousness more than 15 minutes, without severe neurological signs; brief post-traumatic amnesia (less than 3 hours). –Displaced closed skull fractures without unconsciousness or other signs of intracranial injury. –Loss of eye, or avulsion of optic nerve. –Displaced facial bone fractures or those with antral or orbital involvement. –Cervical spine fractures without cord damage. CHEST –Multiple rib fractures without respiratory embarrassment. –Hemothorax or pneumothorax. –Rupture of diaphragm. –Lung contusion. ABDOMINAL AND PELVIC CONTENTS –Contusion of abdominal organs. –Extraperitoneal bladder rupture. –Retroperitoneal hemorrhage. –Avulsion of ureter. –Laceration of urethra. –Thoracic or lumbar spine fractures without neurological involvement. EXTREMITIES AND/OR PELVIC GIRDLE –Displaced simple long-bone fractures, and/or multiple hand and foot fractures. –Single open long-bone fractures. –Pelvic fracture with displacement. –Dislocation of major joints. –Multiple amputations of digits. –Lacerations of the major nerves or vessels of extremities.	
4	SERIOUS (Life-Threatening, Survival Probable)	B
	GENERAL –Severe lacerations and/or avulsions with dangerous hemorrhage. –30-50% surface 2° or 3° burns. HEAD AND NECK –Cerebral injury with or without skull fracture, with unconsciousness of more than 15 minutes, with definite abnormal neurological signs; post-traumatic amnesia 3-12 hours. –Compound skull fracture. CHEST –Open chest wounds; flail chest; pneumomediastinum; myocardial contusion without circulatory embarrassment; pericardial injuries. ABDOMINAL AND PELVIC CONTENTS –Minor laceration of intra-abdominal contents (to include ruptured spleen, kidney, and injuries to tail of pancreas). –Intraperitoneal bladder rupture. –Avulsion of the genitals. –Thoracic and/or lumbar spine fractures with paraplegia. EXTREMITIES –Multiple closed long-bone fractures. –Amputation of limbs.	
5	CRITICAL (Survival Uncertain)	A
	GENERAL –Over 50% body surface 2° or 3° burns. HEAD AND NECK –Cerebral injury with or without skull fracture with unconsciousness of more than 24 hours; post-traumatic amnesia more than 12 hours; intracranial hemorrhage; signs of increased intracranial pressure (decreasing state of consciousness, brady cardia under 60, progressive rise in blood pressure or progressive pupil inequality). –Cervical spine injury with quadraplegia. –Major airway obstruction. CHEST –Chest injuries with major respiratory embarrassment (laceration of trachea, hemomediastinum, etc.). –Aortic laceration. –Myocardial rupture or contusion with circulatory embarrassment. ABDOMINAL AND PELVIC CONTENTS –Rupture, avulsion or severe laceration of intra-abdominal vessels or organs, except kidney, spleen or ureter. EXTREMITIES –Multiple open limb fractures.	
6	FATAL (Within 24 Hours)	K
	–Fatal lesions of single region of body, plus injuries of other body regions of Severity Code 3 or less. –Fatal from burns regardless of degree.	
7	FATAL (Within 24 Hours)	K
	–Fatal lesions of single region of body, plus injuries of other body regions of Severity Code 4 or 5.	
8	FATAL	K
	–2 fatal lesions in 2 regions of body.	
9	FATAL	K
	–3 or more fatal injuries. –Incineration by fire.	
10	FATAL	K
	–Death but details unknown.	
99 X	SEVERITY UNKNOWN	
	–Injured, but severity not known.	
99 Z	PRESENCE UNKNOWN	
	–Presence of injury not known.	

*Developed by the American Medical Association Committee on Medical Aspects of Automotive Safety, in cooperation with physicians representing medical specialties most involved in the diagnosis, care and treatment of crash injuries, and General Motors Corporation.

COMMENTS OR ADDITIONAL DESCRIPTION			OCC. NO. REF.	CARD NO. REF.	CARD NO. REF.
1-9	10-11	12 (NO MORE THAN 63 CHARACTERS INCLUDING BLANKS) 74	75-76	77-78	79-80
D	27				
U	28				
P	29				
L	30				
I	31				
C	32				
A	33				
T	34				
E	35				
	36				
F	37				
R	38				
O	39				
M	40				
	41				
P	42				
R	43				
E	44				
C	45				
E	46				
D	47				
I	48				
N	49				
G	50				
	51				
C	52				
A	53				
R	54				
D	55				

COMMENTS OR ADDITIONAL DESCRIPTION			OCC. NO. REF.	CARD NO. REF.	CARD NO. REF.
1-9	10-11	12 (NO MORE THAN 63 CHARACTERS INCLUDING BLANKS) 74	75-76	77-78	79-80
D	56				
U	57				
P	58				
L	59				
I	60				
C	61				
A	62				
T	63				
E	64				
	65				
F	66				
R	67				
O	68				
M	69				
	70				
P	71				
R	72				
E	73				
C	74				
E	75				
D	76				
I	77				
N	78				
G	79				
	80				
C	81				
A	82				
R	83				
D	84				

APPENDIX B

CORRECTIONS DURING PREPARATION OF THE DATA

MAJOR CONSIDERATIONS IN MANUAL EDITING OF CARF'S

On page 1, case identification number of the country and team, and year must correspond with those on page 2. On page 3, the collision configuration must correspond with the collision scene schematic on page 6. On page 4, objects contacted is checked with the collision dynamics on page 6. On page 8, columns 21-26 must correspond with the NATO format. The number of occupants is checked to see if it complies with the Human data. The vehicle identification number often needs to be filtered. The vehicle weight is sometimes blank; if possible, the weight of the vehicle is determined from available data. The body style of the vehicle is checked with the parts catalog, if available, to see if they coincide. The body structure is also compared with left body mount separation, page 17, and right body mount separation, page 19. At the end of card 03, the case vehicle repair replacement cost is assigned a code to designate the monetary unit, e.g., pounds, dollars. The vehicle deformation index on page 10 is checked to see if it corresponds with the VDI on page 9, card column 12-29. The damaged regions shown on page 10 are compared with sheet metal crush and sheet metal damage, on page 9. Page 11 is also compared with the preceding pages, 9 and 10, regarding sheet metal damage, sheet metal crush, and vehicle deformation. On page 12, the SwRI staff adds its own VDI estimate in card columns 46-54. Page 12 must also agree with page 9. On page 14, the type of engine compartment telescoping unit is checked against page 15. If available, pictures are very helpful for exterior damage. Pages 12 and 9 must correspond with the collision scene schematic and vehicle collision dynamics on page 6. The left exterior damage, the right exterior damage, and the rear exterior damage on pages 16 and 17 are checked with card columns 30-35, and 36-53, on page 9. If available, pictures help us to check the steering wheel, position and damage, rim damage, the number of spokes, and whether it was equipped with an energy-absorbing device. Often pages 22 and 23 are incomplete. On page 24, general information about passenger compartment reduction in size is compared with vehicle interior deformation index on page 11. Under windshields on page 24, card column 43, the category "popped out" is checked to see if it is filled in correctly because there is often confusion as to whether the popped out should be coded as 2 or 3. The type of windshield glass is also checked with data available to see whether it is tempered or laminated. On page 25, the entry in card column 77 often must be changed from 2 to 3. On page 28, card columns 16 and 18 must agree with card column 71 on page 28. On page 29, card columns 43 and 44 often must be changed from 3 to 2, and card columns 61 and 62 must be changed from 2 to 3. On page 30, card columns 20 and 21 must often be changed from 2 to 3, and card columns 38 and 39 must be changed from 2 to 3.

Blanks are assumed to be unknowns, and appropriate codes are entered.

Several cases have been found to be incomplete. Sometimes the missing information can be obtained. However, some cases have been rejected because too much information was missing.

On page 32, occupant number is checked for agreement with the NATO format. The occupant weight and height are checked to ascertain that they are in metric units. For the restraint systems, the columns are checked for agreement with the "equipped" or "not equipped" questions. The passive restraint belt section is checked to make sure it is properly filled out. The restraint separation is checked for agreement with the restraint system "used" or "not used." Columns 59-61, Fire Control Equipment, Submersion Equipment, and Fire Protection Equipment used, are compared with the postcrash data to ensure that the NATO format is followed. The status of traumatic injuries is checked for agreement with the overall severity of the injury. Overall severity of injuries on page 34 is compared to the occupant injury details on page 37. The autopsy section is checked to see that it is properly filled out e.g., proper coding is 3 for any nonfatal injury. Page 36 is checked to ascertain that the location of all injuries is marked, the source of this information is given, the diagnoses and AIS ratings are consistent with the diagram, and all major impairments are listed. On page 37, columns 12 and 13 are checked to see that they agree with the occupant number, and columns 14 through 21 are checked to see that there is a code entered for any area of possible occupant contact. Columns 23 and 34 are checked for the corresponding injuries to determine that the AIS is properly coded. Column 22 is checked for agreement with the overall severity to that body region. On pages 38, 42, 46, and 50, the "child restraint system in use" code is checked for agreement with occupant age.

Preceding page blank

HAND CORRECTIONS TO BE MADE TO YELLOW FORMS BEFORE KEYPUNCHING

1. Page 8, card No. 03, columns 21-26:

   (1) Delete any vehicle identification numbers which may be in these columns.

   (2) Just above columns 21-25, put the 5-digit make/model code.

   (3) Above column 26, put 1 if the steering wheel is on the left and 2 if the steering wheel is on the right.

2. Page 9, case vehicle repair or replacement cost:

   No card columns were provided for this item. Therefore, make the following changes (see diagram).

   (1) Add column numbers 63-67 under the line for cost.

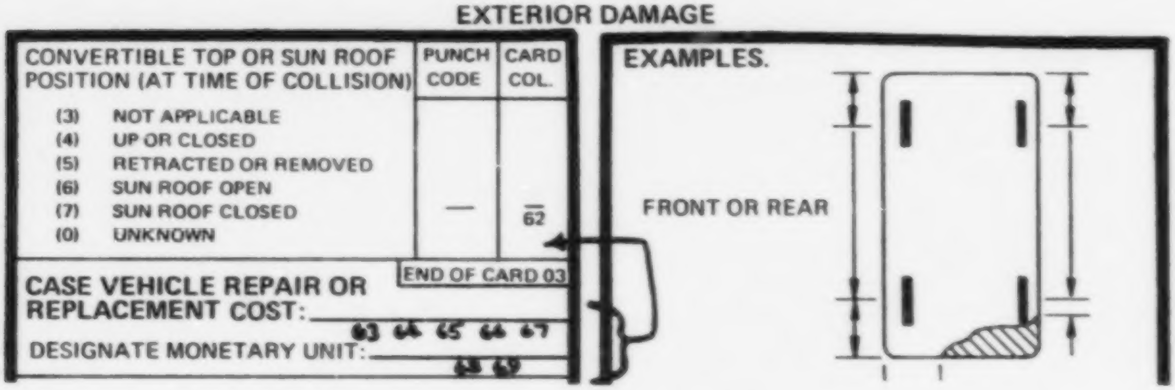
   (2) Add column numbers 68-69 under the line for monetary unit.

   (3) Add the code value denoting the monetary unit. It goes in columns 68-69, and the proper code is given below:

CODE OF COUNTRIES

(00)	Unknown	
(01)	Belgium	*Franc*
(02)	Canada	*Dollar*
(03)	France	*Franc*
(04)	F.R.G.	*Mark*
(05)	Greece	
(06)	Italy	*Lira*
(07)	Netherlands	*Gilder*
(08)	Sweden	*Kröna*
(09)	Turkey	
(10)	U.K.	*Pound*
(11)	U.S.A.	*Dollar*
(12)	Other	

(4) In red, draw a bracket and an arrow as shown, to indicate that columns 63-69 belong on card 03.



EXTERIOR DAMAGE

CONVERTIBLE TOP OR SUN ROOF POSITION (AT TIME OF COLLISION)	PUNCH CODE	CARD COL.
(3) NOT APPLICABLE (4) UP OR CLOSED (5) RETRACTED OR REMOVED (6) SUN ROOF OPEN (7) SUN ROOF CLOSED (0) UNKNOWN	—	$\overline{62}$

END OF CARD 03

CASE VEHICLE REPAIR OR REPLACEMENT COST: ______
63 64 65 66 67

DESIGNATE MONETARY UNIT: ______
68 69

EXAMPLES.
FRONT OR REAR

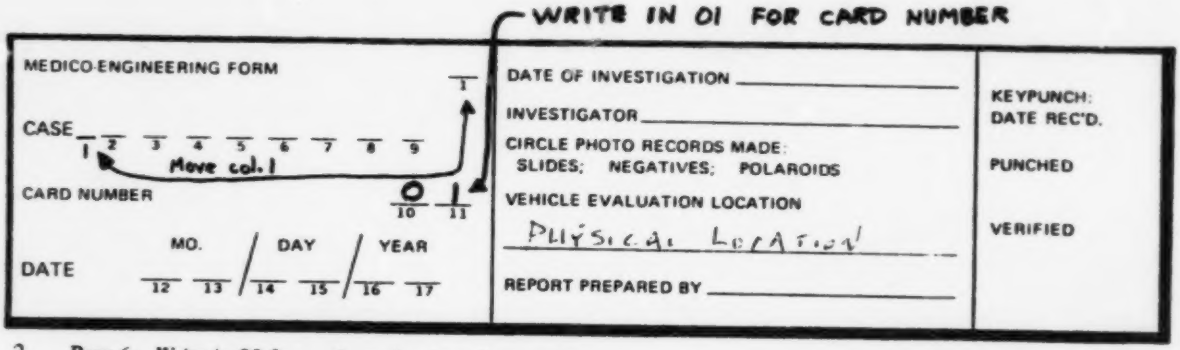
HAND CORRECTIONS TO BE MADE TO BLUE FORMS BEFORE KEYPUNCHING

1. Page 2:

   (1) Move card column 1 to new position as shown on diagram.

   (2) Delete any incorrect entries in columns numbers 1-4 and add the code number assigned to that country and team.

   (3) Write in 01 for card number in columns 10-11.



WRITE IN 01 FOR CARD NUMBER

MEDICO-ENGINEERING FORM

CASE _ _ _ _ _ _ _ _ _

Move col. 1

CARD NUMBER 0 1

DATE MO. / DAY / YEAR

DATE OF INVESTIGATION ________

INVESTIGATOR ________

CIRCLE PHOTO RECORDS MADE:
SLIDES; NEGATIVES; POLAROIDS

VEHICLE EVALUATION LOCATION

PHYSICAL LOCATION

REPORT PREPARED BY ________

KEYPUNCH:
DATE REC'D.

PUNCHED

VERIFIED

1
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

2. Page 6: Write in 02 for card number in columns 10-11.
   Page 9: Write in 03 for card number in columns 10-11.
   Page 13: Write in 04 for card number in columns 10-11.
   Page 15: Write in 05 for card number in columns 10-11.
   Page 18: Write in 06 for card number in columns 10-11.
   Page 23: Write in 07 for card number in columns 10-11.
   Page 25: Write in 08 for card number in columns 10-11.
   (blue card numbers 09 and 10 are not used)
   Page 33: Write in 11 for card number in columns 10-11.
   Page 36: Write in 12 for card number in columns 10-11.
   Page 39: Write in 13 for card number in columns 10-11.
   Page 42: Write in 14 for card number in columns 10-11.

3. Page 6, card 02, column 44:

   (1) If the entry in column 44 is 6, check to see whether the convertible is cloth top or hard top; for each case in which a 6 is found in column 44, list the following information on a separate sheet: blue col. 44 = 6 for team no. ________, case no. ________.

FURTHER CORRECTIONS TO BLUE FORMS

Note: A previous list of *hand corrections to be made to blue forms before keypunching* included 4 corrections. As of July 17, 1972, we have to make the 2 additional corrections shown below for each blue case.

1. Explanation

Each blue book case must have 4 occupant cards (card nos. 11, 12, 13, 14) regardless of whether there were 4 occupants or not (so our blue-yellow conversion program will work).

Correction

For all blue cases with less than 4 occupants, put occupant number 00 in columns 12-13 on those cards (11, 12, 13, or 14) corresponding to nonexistent occupants.

If some of the occupant pages are missing, e.g., those corresponding to cards 13 and 14, use a prepared form like the one attached; enter card numbers 13 and 14 in the card number columns and insert this form where the missing pages belong.

2. Explanation

For our blue-yellow conversion program, we need to put in a code to tell the computer when it reaches the end of each case.

Correction

After the last blue book page which has entries in the occupant injury codes, add one of the "end of case" instructions shown below.

NOTE TO KEYPUNCH OPERATORS

Please add a card here as follows:

card column	1	2	3	4	5 - 80
entry	9	9	9	9	blank

This card denotes end of case.

APPENDIX C
BLUCON CONVERSION EXPLANATIONS

This first column of the blue to yellow conversion is the blue card number of the variable. This is the number of the computer card that the data is stored on. The second column is the variable number as listed in the blue CARF or in the yellow CARF master copy in Appendix A. The third column gives the column numbers where the information is punched on the data card. The fourth and fifth columns describe the yellow computer data card number and column numbers of the corresponding blue CARF data. Column six of the table refers to explanations for recoded and omitted data on pages C-7 and C-8.

BLUE → YELLOW CONVERSION

Blue Card No.	Blue Var. No.	Blue Cols.	Yellow Card No.	Yellow Cols.	Reasons Recodes and Omissions
01	V1	1 - 4	01	1 - 4	
01	V2	5 - 7	01	5 - 7	
01	V3	8 - 9	01	8 - 9	
01	V4	10 - 11	01	10 - 11	
01	V5	12 - 13	01	12 - 13	
01	V6	14 - 15	01	14 - 15	
01	V7	16 - 17	01	16 - 17	
01	V8	36	01	42	
01	V9	37	01	43	
01	V10	38	01	44	
01	V11	39	01	45	
01	V12	40	01	46	
01	V13	41	01	47	
01	V14	42	01	48	
01	V15	43	01	49	
01	V16	44	01	50	
01	V17	45 - 46	01	51 - 52	
01	V18	47 - 48	01	53 - 54	
01	V19	49 - 50	01	55 - 56	
01	V20	51 - 52	omit	omit	01
01	V21	70	01	78	R1
01	V22	71	01	78	R2
02	V23	12	03	12	
02	V24	13	03	13	
02	V25	14	03	14	
02	V26	15	03	15	
02	V27	16	03	16	
02	V28	17	03	17	
02	V29	18	03	18	
02	V30	19	03	19	
02	V31	20	03	20	
02	V32	21	omit	omit	02
02	V33	22	omit	omit	02
02	V34	23	omit	omit	02
02	V35	24	omit	omit	02
02	V36	25	omit	omit	02
02	V37	26	–	–	02
02	V38	27	03	21	
02	V39	28	03	22	
02	V40	29	03	23	
02	V41	30 - 31	03	24 - 25	
02	V42	32 - 33	03	27 - 28	
02	V43	34 - 37	03	30 - 33	
02	V44	38 - 43	03	35 - 40	
02	V45	44	03	47 - 48	R3
02	V46	45	03	51	
02	V47	46 - 47	03	54 - 55	
02	V48	48	03	56	
02	V49	49 - 51	03	41 - 43	
02	V50	52 - 54	03	44 - 46	
02	V51	55 - 56	04	12 - 13	
02	V52	57	04	14	
02	V53	58	04	15	
02	V54	59	04	16	
02	V55	60	04	17	
02	V56	61	04	18	
02	V57	62 - 63	04	21 - 22	
02	V58	64	04	23	
02	V59	65	04	24	
02	V60	66	04	25	
02	V61	67	04	26	
02	V62	68	04	27	
03	V63	12 - 15	03	63 - 67	
03	V64	16	03	49	
03	V65	17	03	17	
03	V66	18	07	57	R4
03	V67	33 - 34	05	19 - 20	
03	V68	35	05	21	
03	V69	36	05	22	
03	V70	37	05	23	
03	V71	38	05	24	
03	V72	39	05	25	
03	V73	40 - 41	05	28 - 29	
03	V74	42	05	30	
03	V75	43	05	31	
03	V76	44	05	32	
03	V77	45	05	33	
03	V78	46	05	34	
03	V79	47 - 48	05	37 - 38	
03	V80	49	05	39	
03	V81	50	05	40	
03	V82	51	05	41	
03	V83	52	05	42	
03	V84	53	05	43	
04	V85	12	04	30	
04	V86	13	04	31	
04	V87	14	04	32	
04	V88	15	04	33	
04	V89	16	04	34	
04	V90	17	04	35	
04	V91	18 - 20	04	36 - 38	
04	V92	21 - 23	04	39 - 41	
04	V93	24 - 26	04	42 - 44	
04	V94	27 - 29	04	45 - 47	
04	V95	30 - 32	04	48 - 50	
04	V96	33 - 35	04	51 - 53	

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BLUE→YELLOW CONVERSION (Cont'd)

Blue Card No.	Blue Var. No.	Blue Cols.	Yellow Card No.	Yellow Cols.	Reasons Recodes and Omissions
06	V193	13	06	37	
06	V194	14	06	38	
06	V195	15 - 18	09	22 - 24	
06	V196	19	09	25	
06	V197	20 - 23	omit	omit	07
06	V198	24	omit	omit	07
06	V199	25	09	26	
06	V200	26 - 28	09	27 - 29	
06	V201	29 - 31	09	30 - 32	
06	V202	32	06	39	
06	V203	33 - 35	06	40 - 42	
06	V204	36	09	35	
06	V205	37	09	36	
06	V206	38	09	37	
06	V207	39	09	38	
06	V208	40	10	38	
06	V209	41	10	39	
06	V210	42	10	40	
06	V211	43	omit	omit	08
06	V212	44	10	43	
06	V213	45	omit	omit	09
06	V214	46	omit	omit	09
06	V215	47	10	46	
06	V216	48	10	47	
06	V217	49	10	48	
06	V218	50	omit	omit	010
06	V219	51	omit	omit	010
06	V220	52	10	49	
06	V221	53	10	50	
06	V222	54	10	51	
06	V223	55	10	52	
06	V224	56	10	53	
06	V225	57	10	54	
06	V226	58	10	57	
06	V227	59	10	58	
06	V228	60	10	61	
06	V229	61	10	62	
06	V230	62	10	63	
06	V231	63	10	64	
06	V232	64	10	71	
06	V233	65	11	12	
06	V234	66	11	13	
06	V235	67	11	14	
06	V236	68	11	15	
06	V237	69	11	16	
06	V238	70	11	17	
06	V239	71	11	18	
06	V240	72	11	19	

BLUE→YELLOW CONVERSION (Cont'd)

Blue Card No.	Blue Var. No.	Blue Cols.	Yellow Card No.	Yellow Cols.	Reasons Recodes and Omissions
06	V241	73	11	20	
06	V242	74	11	21	
06	V243	75	11	22	
06	V244	76 - 77	10	66 - 67	
06	V245	78 - 79	10	69 - 70	
06	V246	80	10	71	
07	V247	31	09	41	
07	V248	32	09	42	
07	V249	33	09	44	
07	V250	34	09	45	
07	V251	35	omit	omit	011
07	V252	36	omit	omit	011
07	V253	37	11	41	
07	V254	38	11	42	
07	V255	39	11	49	
07	V256	40	11	50	
07	V257	41	12	18	
07	V258	42	12	19	
07	V259	43	12	26	
07	V260	44	12	27	
07	V261	45	11	23	
07	V262	46	11	25	
07	V263	47	omit	omit	012
07	V264	48	omit	omit	012
07	V265	49	09	49	
08	V266	12	09	50	
08	V267	13	09	51	
08	V268	14	09	52	
08	V269	15	09	53	
08	V270	16	09	54	
08	V271	17	09	55	
08	V272	18	09	56	
08	V273	19	09	57	
08	V274	20	09	58	
08	V275	21	09	59	
08	V276	22	09	60	
08	V277	23	09	61	
08	V278	24	09	62	
08	V279	25	09	63	
08	V280	26	09	65	
08	V281	27	09	66	
08	V282	28	09	67	
08	V283	29	09	68	
08	V284	30	09	69	
08	V285	31	09	70	
08	V286	32	09	71	
08	V287	33	09	72	
08	V288	34	09	73	

BLUE → YELLOW CONVERSION (Cont'd)

Blue Card No.	Blue Var. No.	Blue Cols.	Yellow Card No.	Yellow Cols.	Reasons Recodes and Omissions
04	V97	36	06	23	
04	V98	37	06	24	
04	V99	38	06	25	
04	V100	39	06	26	
04	V101	40	06	27	
04	V102	41	06	28	
04	V103	42	06	29	
04	V104	43	06	31	
04	V105	44	06	32	
04	V106	45	06	33	
04	V107	46	omit	omit	03
04	V108	47	omit	omit	03
04	V109	48	omit	omit	03
04	V110	49	omit	omit	03
04	V111	50	omit	omit	03
04	V112	51	omit	omit	03
04	V113	52	omit	omit	03
04	V114	53	omit	omit	03
04	V115	54	07 (08)	35 (44)	R5
04	V116	55	07	36	
04	V117	56	07	37	
04	V118	57	07	38	
04	V119	58	07	39	
04	V120	59	08	45	
04	V121	60	08	46	
04	V122	61	08	47	
04	V123	62	08	48	
04	V124	63	07	47	
04	V125	64	07	48	
04	V126	65	08	56	
04	V127	66	08	57	
04	V128	67	07	40	
04	V129	68	07	41	
04	V130	69	07	42	
04	V131	70	07	43	
04	V132	71	08	49	
04	V133	72	08	50	
04	V134	73	08	51	
04	V135	74	08	52	
04	V136	75	07	45	
04	V137	76	07	46	
04	V138	77	08	54	
04	V139	78	08	55	
05	V140	12	07	58	
05	V141	13	07	59	
05	V142	14	07	60	
05	V143	15	omit	omit	04
05	V144	16	omit	omit	04

BLUE → YELLOW CONVERSION (Cont'd)

Blue Card No.	Blue Var. No.	Blue Cols.	Yellow Card No.	Yellow Cols.	Reasons Recodes and Omissions
05	V145	17	omit	omit	04
05	V146	18	omit	omit	04
05	V147	19	omit	omit	04
05	V148	20	omit	omit	04
05	V149	21	omit	omit	04
05	V150	22	omit	omit	04
05	V151	23	08	12	
05	V152	24	08	13	
05	V153	25	08	14	
05	V154	26	08	15	
05	V155	27	08	16	
05	V156	28	08	17	
05	V157	29	08	18	
05	V158	30	08	19	
05	V159	31	08	20	
05	V160	32	08	21	
05	V161	33	06	35	
05	V162	34	omit	omit	05
05	V163	35	09	39	
05	V164	36	09	40	
05	V165	37	07	49	
05	V166	38	07	50	
05	V167	39	07	51	
05	V168	40	omit	omit	06
05	V169	41	omit	omit	06
05	V170	42	07	52	
05	V171	43	07	53	
05	V172	44	07	54	
05	V173	45	07	55	
05	V174	46	07	12	
05	V175	47	07	13	
05	V176	48	08	60	
05	V177	49	08	61	
05	V178	50	08	62	
05	V179	51	08	63	
05	V180	52	08	64	
05	V181	53	08	65	
05	V182	54	08	66	
05	V183	55 - 56	09	12 - 13	
05	V184	57	09	16	
05	V185	58	09	17	
05	V186	59	09	18	
05	V187	60	09	19	
05	V188	61	09	20	
05	V189	62	09	21	
05	V190	63	09	14	
05	V191	64	09	15	
06	V192	12	06	36	

BLUE → YELLOW CONVERSION (Cont'd)

Blue Card No.	Blue Var. No.	Blue Cols.	Yellow Card No.	Yellow Cols.	Reasons Recodes and Omissions
08	V289	35	09	74	
08	V290	36	09	75	
08	V291	37	09	76	
08	V292	38	09	77	
08	V293	39	10	12	
08	V294	40	10	13	
08	V295	41	10	14	
08	V296	42	10	15	
08	V297	43	10	16	
08	V298	44	10	17	
08	V299	45	10	18	
08	V300	46	10	19	
08	V301	47	10	20	
08	V302	48	10	21	
08	V303	49	omit	omit	013
08	V304	50	omit	omit	013
08	V305	51	omit	omit	013
08	V306	52	omit	omit	013
08	V307	53	omit	omit	013
08	V308	54	omit	omit	013
08	V309	55	omit	omit	013
08	V310	56	omit	omit	013
08	V311	57	omit	omit	013
08	V312	58	omit	omit	013
08	V313	59	omit	omit	013
08	V314	60	omit	omit	013
08	V315	61	omit	omit	013
08	V316	62	10	26	
08	V317	63	10	27	
08	V318	64	10	28	
08	V319	65	10	29	
08	V320	66	10	30	
08	V321	67	10	31	
08	V322	68	10	32	
08	V323	69	10	33	
08	V324	70	10	34	
08	V325	71	10	35	
08	V326	72	10	36	
08	V327	73	10	37	
09	Blank	Blank	Blank	Blank	
10	Blank	Blank	Blank	Blank	
11	V328	12 - 13	13	12 - 13	
11	V329	14	13	14	
11	V330	15	13	15	
11	V331	16	13	17	
11	V332	17 - 18	13	19 - 20	
11	V333	19 - 20	13	21 - 22	
11	V334	21 - 23	13	23 - 25	

BLUE → YELLOW CONVERSION (Cont'd)

Blue Card No.	Blue Var. No.	Blue Cols.	Yellow Card No.	Yellow Cols.	Reasons Recodes and Omissions
11	V335	24 - 26	13	26 - 28	
11	V336	27	13	29	
11	V337	34	13	30	
11	V338	35	13	31	
11	V339	36	13	32	
11	V340	37	13	34	
11	V341	38	13	35	
11	V342	39	13	36	
11	V343	40	13	47	
11	V344	41	13	48	
11	V345	42	omit	omit	014
11	V346	43 - 44	13	65 - 66	

REASONS FOR OMISSIONS IN BLUE–YELLOW CONVERSION

Omission	Reason
01	V20 in blue form, corresponds to the fourth object contacted (see p. 3, cols. 51-52). The yellow form allows for only 3 objects contacted, so the 4th is omitted.
02	The last 6 columns for the vehicle identification number have been deleted in both blue and yellow forms, since most vehicle identification numbers are not over 8 digits long, and no useful information is contained in the extra digits of those having more than 8 digits. Instead, columns 21-25 in both forms will contain the 5-digit make/model code. Col. 26 will be 1 if the steering wheel is on the left and 2 if the steering wheel is on the right.
03	Insufficient information available for recoding of blue to yellow format.
04	Same as 03.
05	Same as 03.
06	No corresponding items in yellow book.
07	Same as 06.
08	Same as 03.
09	Same as 03.
010	Same as 06.
011	Same as 03.
012	Same as 03.
013	Same as 03.
014	Same as 03.

RECODINGS IN BLUE–YELLOW CONVERSION

Recoded Item — Explanation

R1, R2

See blue form, p. 4, cols. 70 and 71, and yellow form, p. 5, col. 78.
If the entries in blue columns 70 and 71 are as shown below, enter the number shown in yellow col. 78.

Blue		Yellow
70	71	78
0	0	0
0	1	2
0	2	0
1	0	1
1	1	3
1	2	1
2	0	0
2	1	2
2	2	0

R3

See blue p. 6, col. 44, and yellow p. 8, col. 47 - 48. The first 5 codes in blue col. 44 are unchanged and entered in yellow col. 48.
When a 6 was in blue col. 44, the case was checked to see whether the convertible was cloth top (06) or metal top (07), and the corresponding code was entered in yellow cols. 47 - 48.
Then blue (7) was changed to yellow (08) and entered in yellow
blue (8) was changed to yellow (09) and entered in yellow
blue (9) was changed to yellow (10) and entered in yellow
blue (0) was changed to yellow (00) and entered in yellow

R4

See blue p. 9, col. 18 and yellow p. 17, col. 57.
blue (1) was changed to yellow (2)
blue (2) was changed to yellow (4)
blue (3) was changed to yellow (5)
blue (4) was changed to yellow (6)
blue (5) was changed to yellow (7)

R5

See blue p. 14, col. 54 and yellow p. 17, col. 35 and p. 19, col. 44.
If (blue col. 54) = 1, enter 1 in yellow col. 35 and 1 in yellow col. 44.

APPENDIX D

EDICAR

Appendix D contains the self-checking codes, variable list, flow chart, and computer program listing of the EDICAR program. An example of the self-checking codes is described in Section II-C of this volume.

SELF-CHECKING CODES FOR COMPUTER PROGRAM

If (p. 5, col. 78) = 1 or 3, then (p. 34, col. 65 - 66) = 01 or 02 or . . . or 10
or (p. 39, col. 53 - 54) = 01 or 02 or . . . or 10
or (p. 43, col. 53 - 54) = 01 or 02 or . . . or 10
or (p. 47, col. 53 - 54) = 01 or 02 or . . . or 10

If (p. 3, col. 42) = 1, then (p. 4, col. 51 - 52) ≠ 02

If (p. 8, col. 47 - 48) = 05, then (p. 29, col. 51 and 52) ≠ 3
and (p. 29, col. 59 and 60) ≠ 3
and (p. 30, col. 28 and 29) ≠ 3
and (p. 30, col. 36 and 37) ≠ 3

If (p. 9, col. 30) = 1, then (p. 9, col. 37 - 38) ≠ 0

If (p. 9, col. 31) = 1, then (p. 9, col. 39 - 41) ≠ 0

If (p. 9, col. 32) = 1, then (p. 9, col. 42 - 44) ≠ 0

If (p. 9, col. 33) = 1, then (p. 9, col. 45 - 47) ≠ 0

If (p. 9, col. 34) = 1, then (p. 9, col. 48 - 50) ≠ 0

If (p. 9, col. 30) = 1, then (p. 9, col. 12 - 13) = 11, 12, or 01 }
or (p. 9, col. 21 - 22) = 11, 12, or 01 } and
(p. 9, col. 14) = F or
(p. 9, col. 23) = F

If (p. 9, col. 31) = 1, then (p. 9, col. 12 - 13) = 05, 06, or 07 }
or (p. 9, col. 21 - 22) = 05, 06, or 07 } and
(p. 9, col. 14) = B or
(p. 9, col. 23) = B

If (p. 9, col. 32) = 1, then (p. 9, col. 14) = L or
(p. 9, col. 23) = L

If (p. 9, col. 33) = 1, then (p. 9, col. 14) = R or
(p. 9, col. 23) = R

(p. 34, col. 65 - 66) must be ≥ largest number in col. 22 on p. 37
(This also holds for each of the other occupants, except the information is in different columns.)

If (p. 14, col. 36) = 1, then (p. 14, col. 37) ≠ 3
and (p. 14, col. 38) ≠ 3

If (p. 14, col. 36) = 2, then (p. 14, col. 37) = 3
and (p. 14, col. 38) = 3

If (p. 14, col. 39) = 8, then (p. 14, col. 40 - 42) = blank

If (p. 16, col. 12) = 2, then (p. 16, cols. 13 and 14) = 3

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If (p. 8, col. 49) = 2, then (p. 17, col. 34) = 3
and (p. 19, col. 43) = 3

If (p. 17, col. 44) = 1, then (p. 16, col. 17) = 2
and (p. 16, col. 19) = 2
and (p. 16, col. 21) = 2 or 3
and (p. 16, col. 23) = 2
and (p. 16, col. 25) = 2 or 3
and (p. 16, col. 27) = 2 or 3
and (p. 16, col. 29) = 2 or 3
and (p. 16, col. 31) = 2 or 3
and (p. 17, col. 37) = 2
and (p. 17, col. 39) = 2 or 3
and (p. 17, col. 41) = 2
and (p. 17, col. 43) = 2 or 3
and (p. 17, col. 45) = 2
and (p. 17, col. 46) = 2 or 3

If (p. 17, col. 52) = 2, then (p. 17, col. 53 - 55) = 3

If (p. 19, col. 53) = 1, then (p. 19, col. 25) = 2
and (p. 19, col. 27) = 2
and (p. 19, col. 29) = 2 or 3
and (p. 19, col. 31) = 2
and (p. 19, col. 33) = 2 or 3
and (p. 19, col. 35) = 2 or 3
and (p. 19, col. 37) = 2 or 3
and (p. 19, col. 39) = 2 or 3
and (p. 19, col. 46) = 2
and (p. 19, col. 48) = 2 or 3
and (p. 19, col. 50) = 2
and (p. 19, col. 52) = 2 or 3
and (p. 19, col. 54) = 2
and (p. 19, col. 55) = 2 or 3

If (p. 20, col. 67) = 2, then (p. 20, cols. 68 - 76) = are blank

If (p. 19, col. 35) = 1, then (p. 19, col. 36) = 1

If (p. 24, col. 45) = 1, then (p. 24, col. 44) = 1
and {(p. 24, col. 41) = 1
(p. 24, col. 42) = 1 or}

If (p. 24, col. 41) = 2 or (p. 24, col. 44) = 2, then (p. 24, col. 45) = 3

If (p. 27, col. 38) = 4, 5, 6, 7, or 8, then entry in (p. 27, col. 47) equals entry in (p. 27, col. 48)

If (p. 27, col. 51) = 1, then there must be at least one rear occupant, i.e., cards for occupants 04, 05, 06.

If (p. 28, col. 65 - 70) $\neq$ 0, then (p. 27, col. 49) = 1

If (p. 28, col. 71) = 2 or 4, then (p. 28, col. 16) = 3
and (p. 28, col. 16) = 3
and (p. 28, col. 16) = 3
and (p. 28, col. 16) = 3

If (p. 32, col. 35) = 2 or 3, then (p. 32, col. 46) = 3

If (p. 38, col. 47) = 3, then (p. 38, col. 19 - 20) > 07

If (p. 8, col. 26) = 1, then (p. 32, col. 15) = 4

If (p. 8, col. 26) = 2, then (p. 32, col. 15) = 8

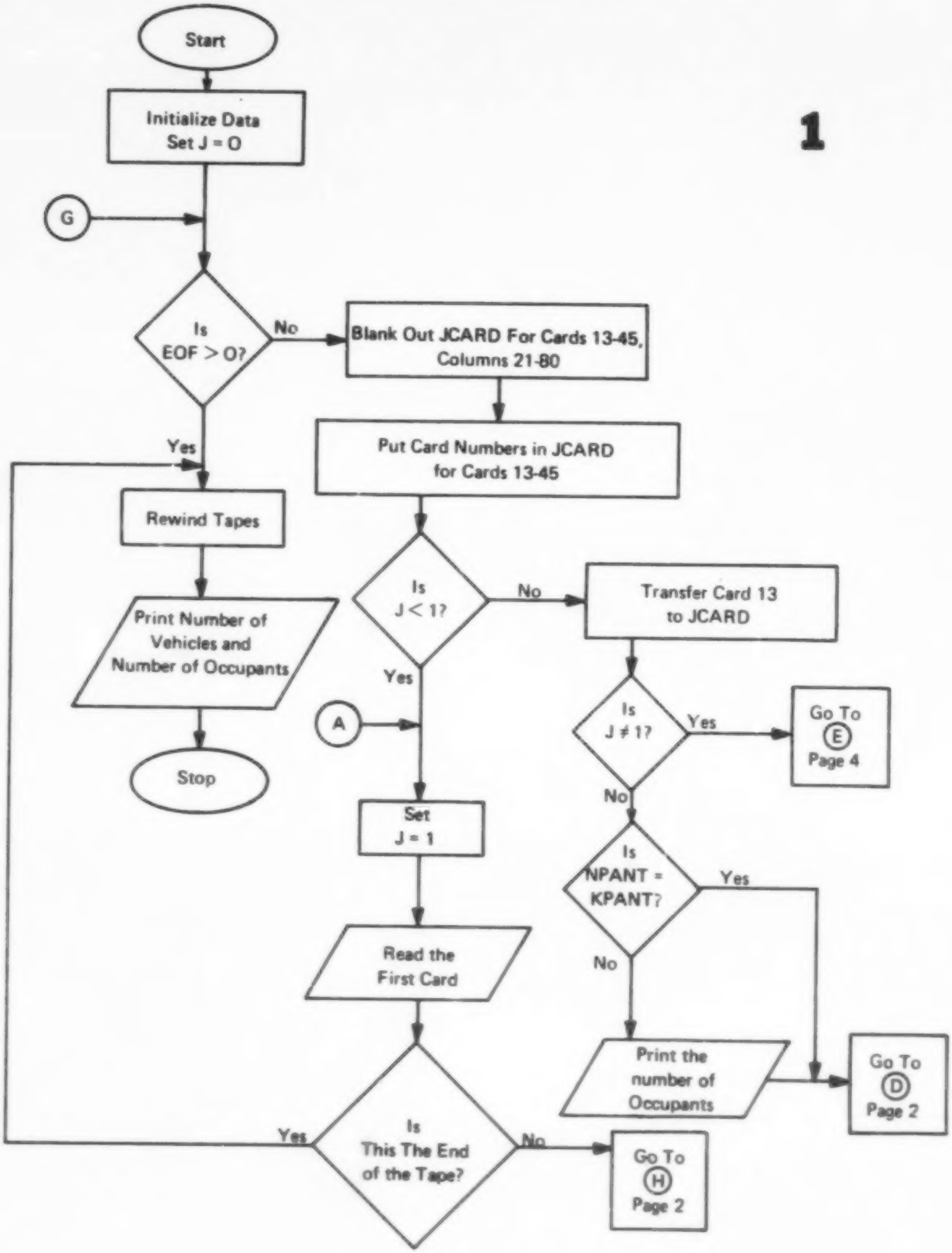
VARIABLE DEFINITIONS–EDICAR

IV(8)–Card 13 data
JCARD(8, 44)–The stored data from a single case
K1(10)–Left justified alphanumeric digits 0-9
K10(4)–Right justified alphanumeric digits 1-4
LCARD(8)–Storage for card data
IVEH–Number of vehicles
IOCC–Number of occupants
EOF–Indicator for the end of the tape being read
J–Indicator of the card number
ID–Case identification number
NOC–Number of the card
IDO–Case identification number for comparison with other cards in case
NPANT–Number of occupants processed in the case
KPANT–Occupant count for the vehicle being processed
IPANT–The occupant number
IVER–Right or left hand drive
IER–A flag to note if an inconsistency exists in the case
IDP–Case identification number of processed case
L–Card sequence number
ICD–First card number
JCD–Second card number
ICOL–First column number
JCOL–Second column number
IC–First coded item
JC–Second coded item
TAPE 1–The Vehicle File
TAPE 2–The Occupant File
TAPE 5–Optional Input Tape

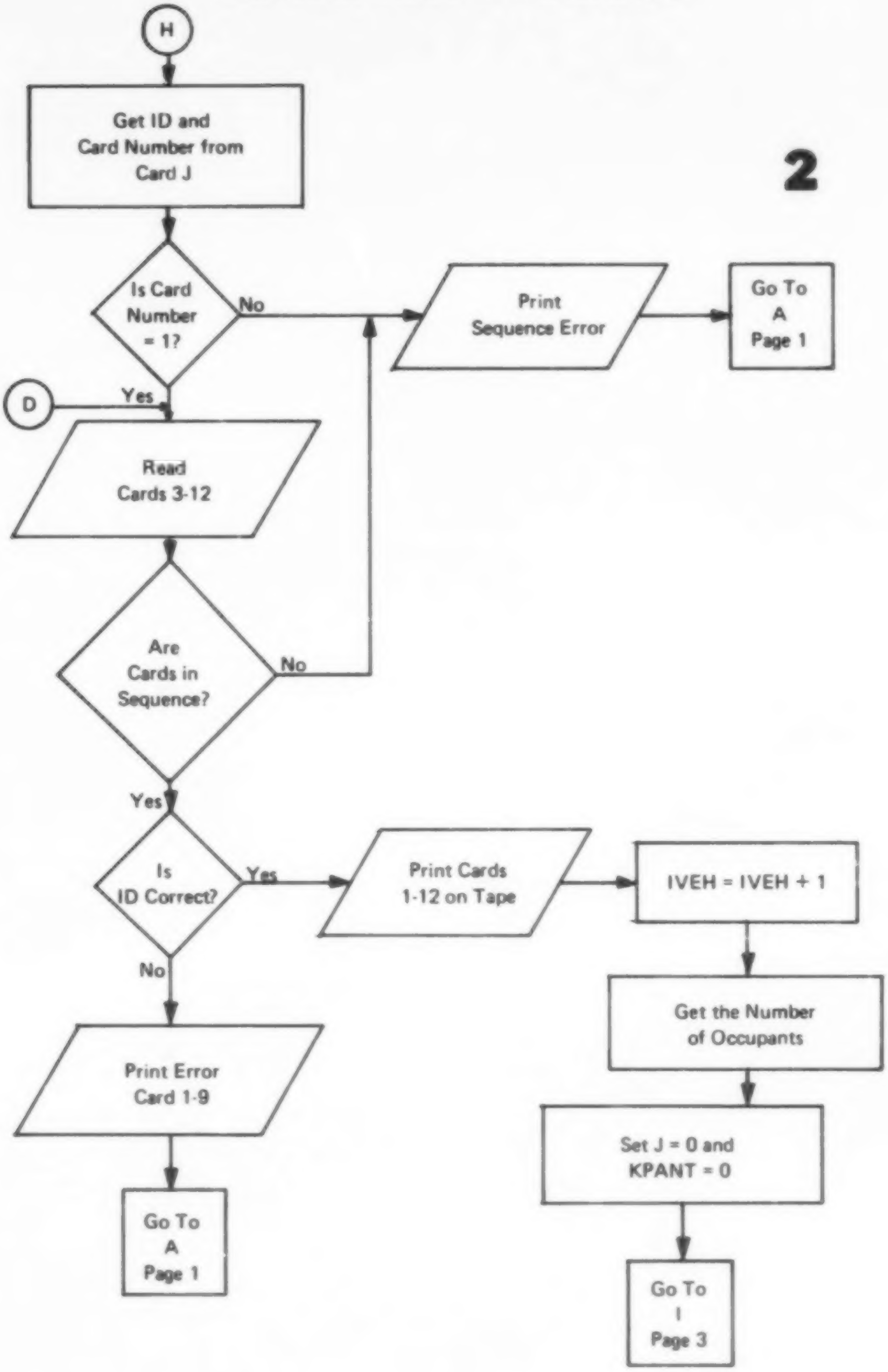
Note: The page numbers referred to in the flowchart are the numbers in the upper right-hand corner of the page on the flowchart.

FLOWCHART—PROGRAM EDICAR

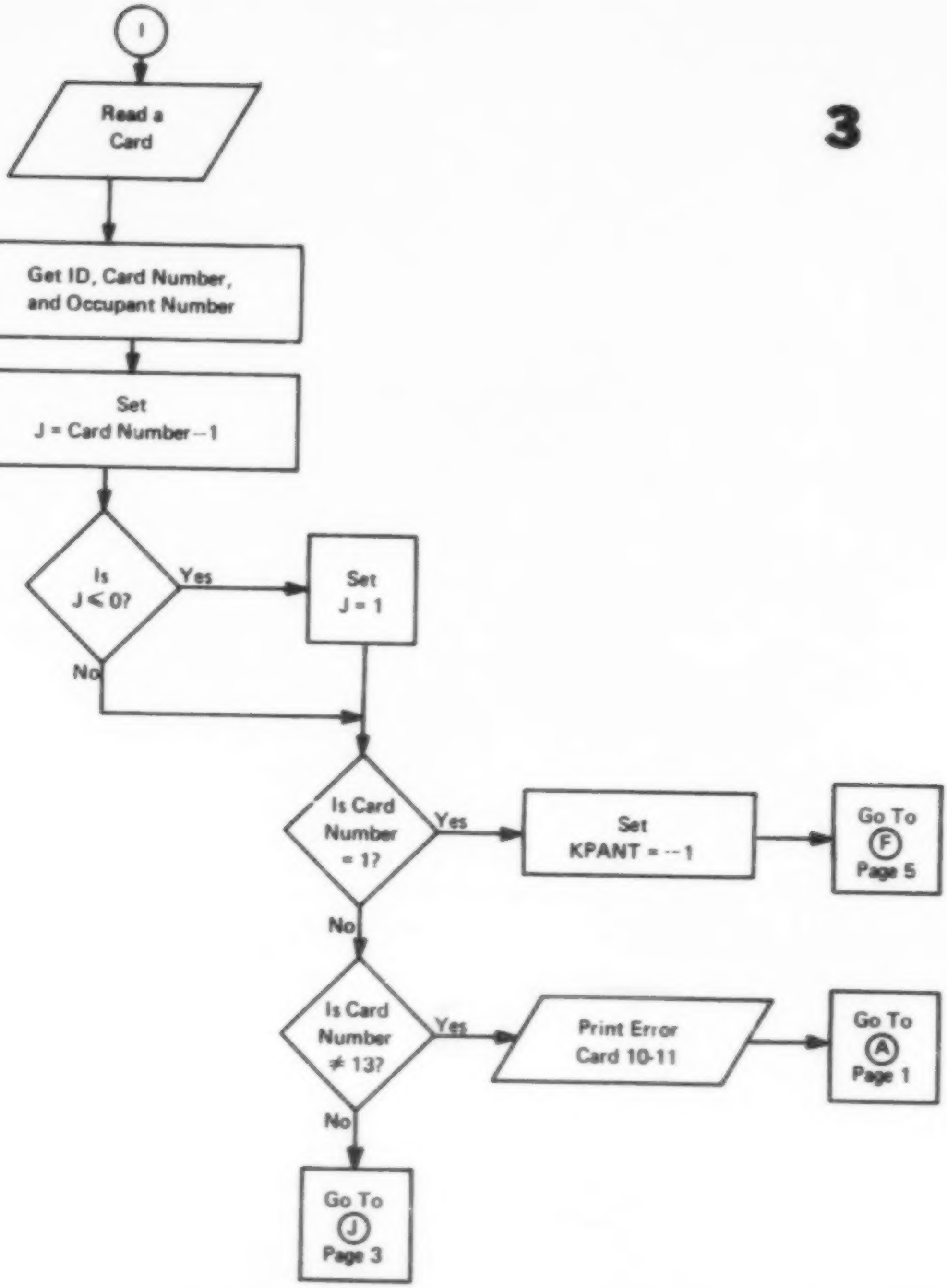
1


Start
Initialize Data
Set J = O
G
Is
EOF > O?
No
Yes
Blank Out JCARD For Cards 13-45,
Columns 21-80
Put Card Numbers in JCARD
for Cards 13-45
Rewind Tapes
Print Number of
Vehicles and
Number of Occupants
Stop
Is
J < 1?
No
Yes
Transfer Card 13
to JCARD
A
Is
J ≠ 1?
Yes
No
Go To
E
Page 4
Set
J = 1
Is
NPANT =
KPANT?
Yes
No
Read the
First Card
Print the
number of
Occupants
Go To
D
Page 2
Is
This The End
of the Tape?
Yes
No
Go To
H
Page 2

FLOWCHART–PROGRAM EDICAR (Cont'd)


H
Get ID and Card Number from Card J
2
Is Card Number = 1?
No
Print Sequence Error
Go To A Page 1
Yes
D
Read Cards 3-12
Are Cards in Sequence?
No
Yes
Is ID Correct?
Yes
Print Cards 1-12 on Tape
IVEH = IVEH + 1
Get the Number of Occupants
Set J = 0 and KPANT = 0
Go To I Page 3
No
Print Error Card 1-9
Go To A Page 1

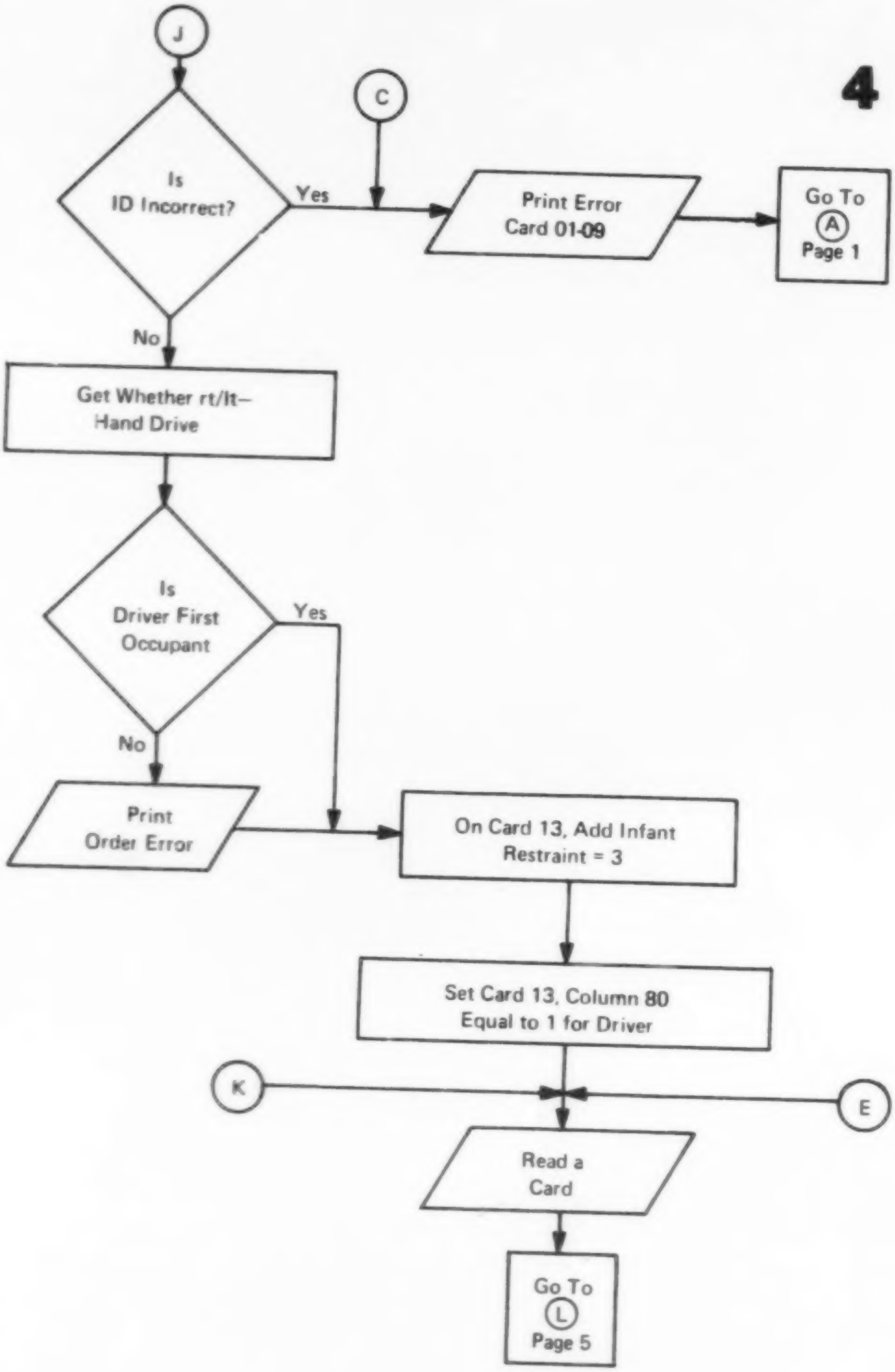
FLOWCHART–PROGRAM EDICAR (Cont'd)


I
Read a Card
Get ID, Card Number, and Occupant Number
Set J = Card Number – 1
Is J ≤ 0?
Yes
Set J = 1
No
Is Card Number = 1?
Yes
Set KPANT = – 1
Go To F Page 5
No
Is Card Number ≠ 13?
Yes
Print Error Card 10-11
Go To A Page 1
No
Go To J Page 3

3

FLOWCHART–PROGRAM EDICAR (Cont'd)

4


J
Is ID Incorrect?
Yes
No
C
Print Error Card 01-09
Go To A Page 1
Get Whether rt/lt–Hand Drive
Is Driver First Occupant
Yes
No
Print Order Error
On Card 13, Add Infant Restraint = 3
Set Card 13, Column 80 Equal to 1 for Driver
K
E
Read a Card
Go To L Page 5

FLOWCHART–PROGRAM EDICAR (Cont'd)

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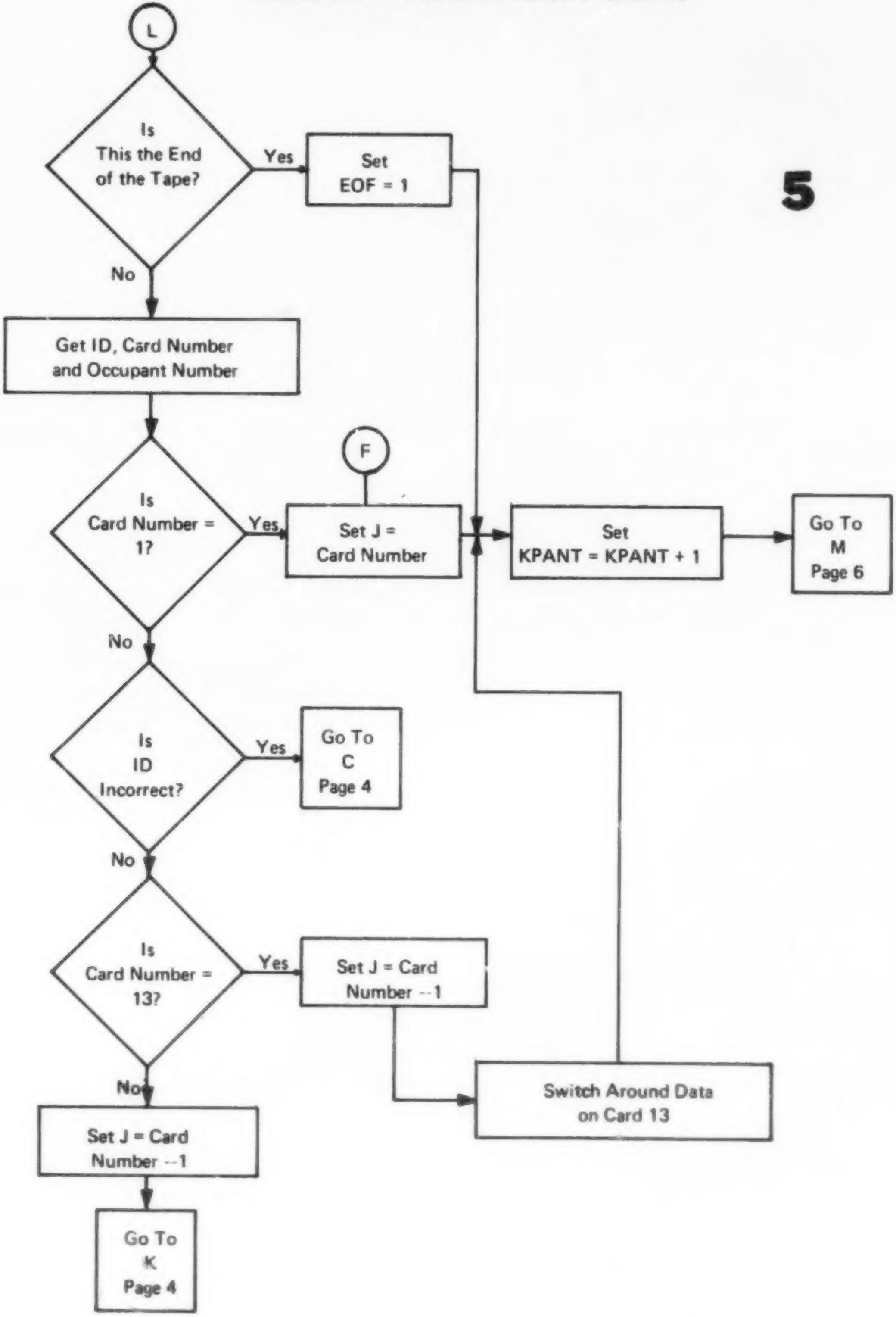
L
Is This the End of the Tape?
Yes
Set EOF = 1
No
Get ID, Card Number and Occupant Number
F
Is Card Number = 1?
Yes
Set J = Card Number
Set KPANT = KPANT + 1
Go To M Page 6
No
Is ID Incorrect?
Yes
Go To C Page 4
No
Is Card Number = 13?
Yes
Set J = Card Number --1
Switch Around Data on Card 13
No
Set J = Card Number --1
Go To K Page 4

FLOWCHART–PROGRAM EDICAR (Cont'd)

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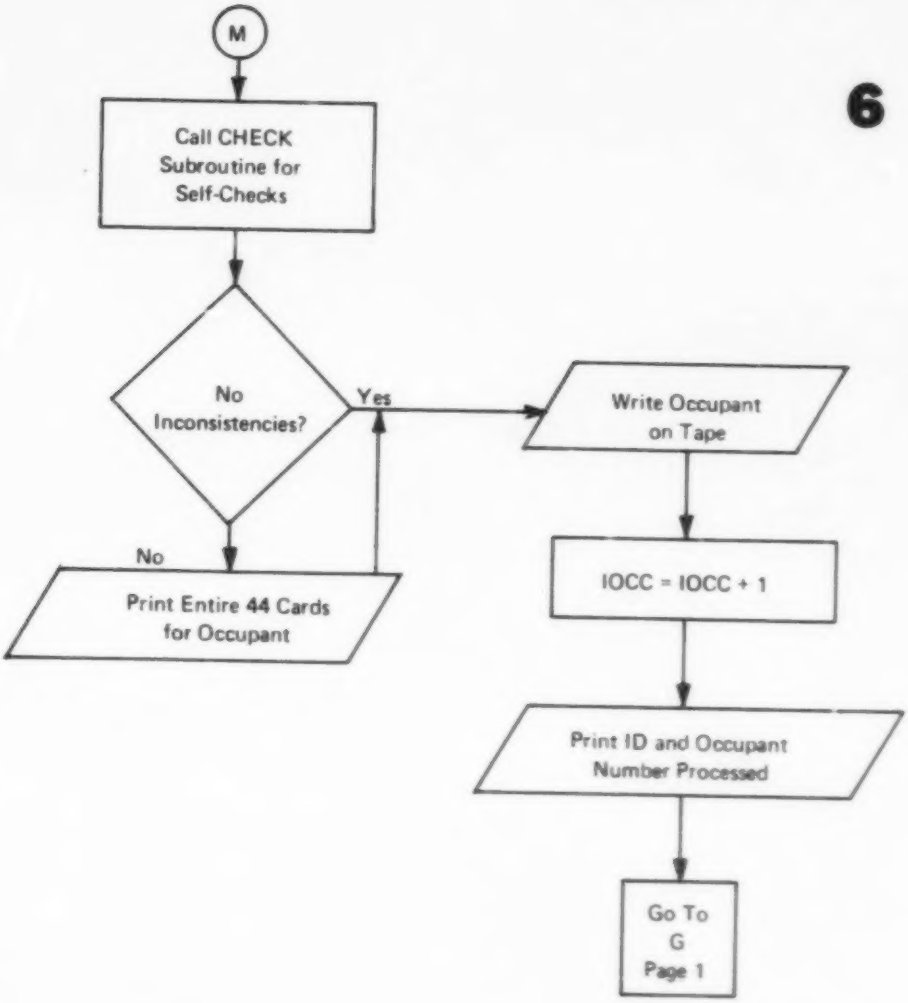
M
Call CHECK Subroutine for Self-Checks
No Inconsistencies?
Yes
No
Print Entire 44 Cards for Occupant
Write Occupant on Tape
IOCC = IOCC + 1
Print ID and Occupant Number Processed
Go To G Page 1

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      PROGRAM EDICAR(INPUT,OUTPUT,TAPE5=INPUT,TAPE1,TAPE2)
      DIMENSION IV(8),JCARD(8,44),K1(10),K10(4),LCARD(8)
      COMMON JCARD
      REWIND 1
      REWIND 2
      IVEH=0
      IOCC=0
      EOF=0.0
      PRINT 1100
 1100 FORMAT(1H1)
      K10(1)=10H         1
      K10(2)=10H         2
      K10(3)=10H         3
      K10(4)=10H         4
      K1(1)=10H0
      K1(2)=10H1
      K1(3)=10H2
      K1(4)=10H3
      K1(5)=10H4
      K1(6)=10H5
      K1(7)=10H6
      K1(8)=10H7
      K1(9)=10H8
      K1(10)=10H9
      J=0
C
C     INITIALIZE JCARD DATA BLOCK
      GO TO 250
   10 J=1
      READ 1000,(JCARD(I,J),I=1,8)
 1000 FORMAT(8A10)
      IF(EOF,5) 20,30
   20 CONTINUE
      REWIND 1
      REWIND 2
      PRINT 1210,IVEH,IOCC
 1210 FORMAT(6H0TOTAL,10X,8HVEHICLES,I4,5X,9HOCCUPANTS,I4)
      STOP
   30 CONTINUE
      DECODE(11,1010,JCARD(1,J)) ID,NOC
 1010 FORMAT(A9,I2)
      IF(NOC .EQ. 1) GO TO 100
   50 PRINT 1160,(JCARD(I,J),I=1,8)
 1160 FORMAT(1X,14HSEQUENCE ERROR ,5X,8A10 )
      GO TO 10
   70 PRINT 1190,(JCARD(I,J),I=1,8)
 1190 FORMAT(1H0,14HERROR CC 01-09 ,5X,8A10 )
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      GO TO 10
   80 PRINT 1190,LCARD
      GO TO 10
   90 PRINT 1170,LCARD
 1170 FORMAT(1H0,19HERROR CC 10-11 ,5X,8A10 )
      GO TO 10
  100 CONTINUE
      IDO=ID
C
C     READ CARDS 3 THRU 12
      DO 120 J=2,11
      READ 1000,(JCARD(I,J),I=1,8)
      DECODE(11,1010,JCARD(1,J)) ID,NOC
      IF(NOC .NE. (J+1) ) GO TO 50
      IF(IDO .NE. ID) GO TO 70
  120 CONTINUE
      DO 130 J=1,11
      WRITE (1,1000) (JCARD(I,J),I=1,8)
  130 CONTINUE
      IVEH=IVEH+1
      IDP=IDO
      DECODE(5,1020,JCARD(6,2)) NPANT
 1020 FORMAT(3X,I2)
      J=0
      KPANT=0
C
C     DRIVER DATA
      READ 1000,LCARD
      DECODE(13,1030,LCARD) ID,NOC,IPANT
 1030 FORMAT(A9,2I2)
      J=NOC-1
      IF(J .LE. 0) J=1
      IF(NOC .EQ. 1) GO TO 190
      IF(NOC .NE. 13) GO TO 90
      IF(IDO .NE. ID) GO TO 80
      DECODE(6,1050,JCARD(3,2)) IVER
 1050 FORMAT(5X,I1)
      IF(IVER .EQ. 2) IVER=3
      IF(IPANT .NE. IVER) PRINT 1200,IDO
 1200 FORMAT(1H0,30HDRIVER DATA SEQUENCE ERROR IN , A10 )
C
C     ADD INFANT RESTRAINT VARIABLE TO DRIVER CARD (N.A.)
C     - AND  IDENTIFY DRIVER WITH 1 IN COL.80
      ENCODE(10,1130,LCARD(7)) LCARD(7),K1(4),LCARD(7)
 1130 FORMAT(A7,A1,A2)
      ENCODE(10,1150,LCARD(8)) LCARD(8),K1(2)
 1150 FORMAT(A9,A1)
      DO 140 I=1,8
      JCARD(I,J)=LCARD(I)
      IV(I)=LCARD(I)
  140 CONTINUE
C
C     READ CARDS 14 THRU 45
  160 READ 1000,LCARD
      IF(EOF,5) 230,170
  170 CONTINUE
      DECODE(13,1030,LCARD) ID,NOC,IPANT
      IF(NOC .EQ. 1) GO TO 200
      IF(IDO .NE. ID) GO TO 80
      IF(NOC .EQ. 13) GO TO 220
      J=NOC-1
      DO 180 I=1,8
      JCARD(I,J)=LCARD(I)
  180 CONTINUE
      GO TO 160
  190 KPANT=-1
  200 CONTINUE
      J=NOC
      IDP=ID
      GO TO 240
  220 CONTINUE
      J=NOC-1
C
C     ON OCCUPANT CD.NO.13  - MOVE -
C        CC 47 TO 68
C        CC 48-49 TO 47-48
C        CC 50-55 TO 62-67
C        FROM DRIVER CD.NO.13 TO OCCUPANT CD.NO.13
C        CC 49-61 TO 49-61
C     OCCUPANT  CC                47   48-49  50   51-55
      DECODE(15,1040,LCARD(5)) IV(1),IV(2),IV(3),IV(4)
 1040 FORMAT(6X,A1,A2,A1,A5)
      ENCODE(28,1140,LCARD(5)) LCARD(5),IV(2),IV(5),IV(6),IV(7),IV(3),
     1                         IV(4),IV(1)
 1140 FORMAT(A6,A2,R2,A10,A1,A1,A5,A1)
      GO TO 240
  230 EOF=1.0
  240 CONTINUE
      KPANT=KPANT+1
      CALL CHECK(IER)
      IF(IER .EQ. 0) GO TO 245
      PRINT 1110,JCARD
 1110 FORMAT(/(1X,8A10))
  245 CONTINUE
      DO 247 N=1,44
      WRITE (2.1000) (JCARD(I,N),I=1,8)
  247 CONTINUE
      IOCC=IOCC+1
      PRINT 1120,IDP,KPANT
 1120 FORMAT(1X,A10,I2,3X,9HPROCESSED )
  250 CONTINUE
      IF(EOF .GT. 0.) GO TO 20
      DO 260 N=12,44
      DO 260 I=3,8
      JCARD(I,N)=10H
  260 CONTINUE
      L=8
      DO 280 N=1,4
      DO 270 I=1,10
      L=L+1
      IF(L .LT. 12) GO TO 270
      JCARD(1,L)=K10(N)
      JCARD(2,L)=K1(I)
      IF(L .GE. 44) GO TO 280
  270 CONTINUE
  280 CONTINUE
      IF(J .LT. 1) GO TO 10
      DO 300 I=1,8
      JCARD(I,J)=LCARD(I)
  300 CONTINUE
      IF(J .NE. 1) GO TO 160
      IF(NPANT .NE. KPANT) PRINT 1180,NPANT,KPANT,IDP
 1180 FORMAT(21H0OCCUPANTS - RECORDED,I3,3X,7HCOUNTED,I3,3X,3HIN ,A10)
      GO TO 100
      END
      SUBROUTINE CHECK(IER)
C
C     SELF CHECKING CODES
      DIMENSION JCARD(8,99)
      CUMMON JCARD,ICD,ICOL,IC,JCD,JCOL,JC,IERR
 1000 FORMAT(I1)
 1010 FORMAT(1X,I1)
 1020 FORMAT(2X,I1)
 1030 FORMAT(3X,I1)
 1040 FORMAT(4X,I1)
 1050 FORMAT(5X,I1)
 1060 FORMAT(6X,I1)
 1070 FORMAT(7X,I1)
 1080 FORMAT(8X,I1)
 1090 FORMAT(9X,I1)
      IERR=0
C
C     CHECK DRIVER RECORD
      DECODE(10,1090,JCARD(8,12)) IC
      IF(IC .NE. 1) GO TO 870
C     P.8, COL.26
      DECODE(6,1050,JCARD(3,2)) IC
      ICD=3
      ICOL=26
      DECODE(5,1040,JCARD(2,12)) JC
      JCD=13
      JCOL=15
      IF(IC .NE. 1) GO TO 30
      IF(JC .EQ. 4) GO TO 40
      CALL PRNT
   30 IF(IC .NE. 2) GO TO 40
      IF(JC .EQ. 8) GO TO 40
      CALL PRNT
   40 CONTINUE
C     P.3, COL.42
      DECODE(2,1010,JCARD(5,1)) IC
      IF(IC .NE. 1) GO TO 60
      ICD=1
      ICOL=42
      DECODE(2,1110,JCARD(6,1)) JC
 1110 FORMAT(I2)
      IF(JC .NE. 2) GO TO 60
      JCD=1
      JCOL=52
      CALL PRNT
   60 CONTINUE
C     P.8, COL.47-48
      DECODE(8,1120,JCARD(5,2)) IC
 1120 FORMAT(6X,I2)
      IF(IC .NE. 5) GO TO 150
      ICD=3
      ICOL=48
      DECODE(1,1000,JCARD(6,10)) JC
      IF(JC .NE. 3) GO TO 80
      JCD=11
      JCOL=51
      CALL PRNT
   80 DECODE(2,1010,JCARD(6,10)) JC
      IF(JC .NE. 3) GO TO 90
      JCD=11
      JCOL=52
      CALL PRNT
   90 DECODE(9,1080,JCARD(6,10)) JC
      IF(JC .NE. 3) GO TO 100
      JCD=11
      JCOL=59
      CALL PRNT
  100 DECODE(10,1090,JCARD(6,10)) JC
      IF(JC .NE. 3) GO TO 110
      JCD=11
      JCOL=60
      CALL PRNT
  110 DECODE(8,1070,JCARD(3,11)) JC
      IF(JC .NE. 3) GO TO 120
      JCD=12
      JCOL=28
      CALL PRNT
  120 DECODE(9,1080,JCARD(3,11)) JC
      IF(JC .NE. 3) GO TO 130
      JCD=12
      JCOL=29
      CALL PRNT
  130 DECODE(6,1050,JCARD(4,11)) JC
      IF(JC .NE. 3) GO TO 140
      JCD=12
      JCOL=36
      CALL PRNT
  140 DECODE(7,1060,JCARD(4,11)) JC
      IF(JC .NE. 3) GO TO 150
      JCD=12
      JCOL=37
C     P.9, COL.30
  150 CONTINUE
      ICD=4
      ICOL=30
      JCD=4
      DECODE(10,1090,JCARD(3,3)) IC
      IF(IC .NE. 1) GO TO 160
      DECODE(8,1130,JCARD(4,3)) JC
 1130 FORMAT(5X,I3)
      IF(JC .NE. 0) GO TO 180
      JCOL=38
      CALL PRNT
      GO TO 180
  160 CONTINUE
      DECODE(3,1170,JCARD(3,3)) JC
 1170 FORMAT(2X,A1)
      IF(JC .NE. 1HF) GO TO 170
      JCOL=23
      CALL PRNTA
  170 CONTINUE
      DECODE(4,1160,JCARD(2,3)) JC
 1160 FORMAT(3X,A1)
      IF(JC .NE. 1HF) GO TO 180
      JCOL=14
      CALL PRNTA
  180 CONTINUE
C     P.9, COL.31
      DECODE(1,1000,JCARD(4,3)) IC
      ICD=4
      ICOL=31
      JCD=4
      IF(IC .NE. 1) GO TO 190
      DECODE(11,1180,JCARD(4,3)) JC
 1180 FORMAT(8X,I3)
      IF(JC .NE. 0) GO TO 210
      JCOL=41
      CALL PRNT
      GO TO 210
  190 CONTINUE
      DECODE(3,1170,JCARD(3,3)) JC
      IF(JC .NE. 1HB) GO TO 200
      JCOL=23
      CALL PRNTA
  200 CONTINUE
      DECODE(4,1160,JCARD(2,3)) JC
      IF(JC .NE. 1HB) GO TO 210
      JCOL=14
      CALL PRNTA
  210 CONTINUE
C     P.4, COL.32
      DECODE(2,1010,JCARD(4,3)) IC
      ICD=4
      ICOL=32
      JCD=4
      IF(IC .NE. 1) GO TO 220
      DECODE(4,1190,JCARD(4.3)) JC
 1190 FORMAT(1X,I3)
      IF(JC .NE. 0) GO TO 230
      JCOL=44
      CALL PRNT
      GO TO 230
  220 CONTINUE
      DECODE(3,1170,JCARD(3,3)) JC
      IF(JC .NE. 1HL) GO TO 225
      JCOL=23
      CALL PRNTA
  225 CONTINUE
      DECODE(4,1160,JCARD(2,3)) JC
      IF(JC .NE. 1HL) GO TO 230
      JCOL=14
      CALL PRNTA
  230 CONTINUE
C     P.4, COL.33
      DECODE(3,1020,JCARD(4,3)) IC
      ICD=4
      ICOL=33
      JCD=4
      IF(IC .NE. 1) GO TO 240
      DECODE(7,1200,JCARD(5,3)) JC
 1200 FORMAT(4X,I3)
      IF(IC .NE. 0) GO TO 250
      JCOL=47
      CALL PRNT
      GO TO 250
  240 CONTINUE
      DECODE(3,1170,JCARD(3,3)) JC
      IF(JC .NE. 1HR) GO TO 245
      JCOL=23
      CALL PRNTA
  245 CONTINUE
      DECODE(4,1160,JCARD(2,3)) JC
      IF(JC .NE. 1HR) GO TO 250
      JCOL=14
      CALL PRNTA
  250 CONTINUE
C       P.9, COL.34
        DECODE(4,1030,JCARD(4,3)) IC
        IF(IC .NE. 1) GO TO 260
        ICD=4
        ICOL=34
        DECODE(10,1210,JCARD(5,3)) JC
 1210 FORMAT(7X,I3)
        IF(JC .NE. 0) GO TO 260
        JCD=4
        JCOL=50
        CALL PRNT
  260 CONTINUE
C       P.14, COL.36
        DECODE(6,1050,JCARD(4,5)) IC
        IF(IC .NE. 1) GO TO 300
        ICD=6
        ICOL=36
        DECODE(7,1060,JCARD(4,5)) JC
        JCD=6
        IF(JC .NE. 3) GO TO 290
        JCOL=37
        CALL PRNT
  290 DECODE(8,1070,JCARD(4,5)) JC
        IF(JC .NE. 3) GO TO 320
        JCOL=38
        CALL PRNT
        GO TO 320
  300 CONTINUE
        IF(IC .NE. 2) GO TO 320
        ICD=6
        ICOL=36
        DECODE(7,1060,JCARD(4,5)) JC
        JCD=6
        IF(JC .EQ. 3) GO TO 310
        JCOL=37
        CALL PRNT
  310 DECODE(8,1070,JCARD(4,5)) JC
        IF(JC .EQ. 3) GO TO 320
        JCOL=38
        CALL PRNT
  320 CONTINUE
C       P.14, COL.39
        DECODE(9,1080,JCARD(4,5)) IC
        IF(IC .NE. 8) GO TO 330
        ICD=6
        ICOL=39
        DECODE(12,1230,JCARD(4,5)) JC
 1230 FORMAT(9X,A3)
        IF(JC .EQ. 3H   ) GO TO 330
        JCD=6
        JCOL=42
        CALL PRNTA
  330 CONTINUE
C       P.16, COL.12
        DECODE(2,1010,JCARD(2,6)) IC
        IF(IC .NE. 2) GO TO 350
        ICD=7
        ICOL=12
        DECODE(3,1020,JCARD(2,6)) JC
        IF(JC .EQ. 3) GO TO 340
        JCD=7
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      JCOL=13
      CALL PRNT
  340 DECODE(4,1030,JCARD(2,6)) JC
      IF(JC .EQ. 3) GO TO 350
      JCD=7
      JCOL=14
      CALL PRNT
  350 CONTINUE
C     P.8, COL.49
      DECODE(9,1080,JCARD(5,2)) IC
      IF(IC .NE. 2) GO TO 370
      ICD=3
      ICOL=49
      DECODE(4,1030,JCARD(4,6)) JC
      IF(JC .EQ. 3) GO TO 360
      JCD=7
      JCOL=34
      CALL PRNT
  360 DECODE(3,1020,JCARD(5,7)) JC
      IF(JC .EQ. 3) GO TO 370
      JCD=8
      JCOL=43
  370 CONTINUE
C     P.17, COL.44
      DECODE(4,1030,JCARD(5,6)) IC
      IF(IC .NE. 1) GO TO 520
      ICD=7
      ICOL=44
      JCD=7
      DECODE(7,1060,JCARD(2,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 380
      JCOL=17
      CALL PRNT
  380 DECODE(9,1080,JCARD(2,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 390
      JCOL=19
      CALL PRNT
  390 DECODE(1,1000,JCARD(3,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 400
      JCOL=21
      CALL PRNT
  400 DECODE(3,1020,JCARD(3,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 410
      JCOL=23
      CALL PRNT
  410 DECODE(5,1040,JCARD(3,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 420
      JCOL=25
      CALL PRNT
  420 DECODE(7,1060,JCARD(3,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 430
      JCOL=27
      CALL PRNT
  430 DECODE(9,1080,JCARD(3,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 440
      JCOL=29
      CALL PRNT
  440 DECODE(1,1000,JCARD(4,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 450
      JCOL=31
      CALL PRNT
  450 DECODE(7,1060,JCARD(4,6)) JC
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      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 460
      JCOL=37
      CALL PRNT
  460 DECODE(9,1080,JCARD(4,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 470
      JCOL=39
      CALL PRNT
  470 DECODE(1,1000,JCARD(5,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 480
      JCOL=41
      CALL PRNT
  480 DECODE(3,1020,JCARD(5,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 490
      JCOL=43
      CALL PRNT
  490 DECODE(5,1040,JCARD(5,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 500
      JCOL=45
      CALL PRNT
  500 DECODE(6,1050,JCARD(5,6)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 520
      JCOL=46
      CALL PRNT
  520 CONTINUE
C     P.17, COL.52
      DECODE(2,1010,JCARD(6,6)) IC
      IF(IC .NE. 2) GO TO 530
      ICD=7
      ICOL=52
      DECODE(5,1240,JCARD(6,6)) JC
 1240 FORMAT(2X,I3)
      IF(JC .EQ. 333) GO TO 530
      JCD=7
      JCOL=55
      CALL PRNT
  530 CONTINUE
C     P.19, COL.53
      DECODE(3,1020,JCARD(6,7)) IC
      IF(IC .NE. 1) GO TO 700
      ICD=8
      ICOL=53
      JCD=8
      DECODE(5,1040,JCARD(3,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 540
      JCOL=25
      CALL PRNT
  540 DECODE(7,1060,JCARD(3,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 550
      JCOL=27
      CALL PRNT
  550 DECODE(9,1080,JCARD(3,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 560
      JCOL=29
      CALL PRNT
  560 DECODE(1,1000,JCARD(4,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 570
      JCOL=31
      CALL PRNT
  570 DECODE(3,1020,JCARD(4,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 580
      JCOL=33
      CALL PRNT
  580 DECODE(5,1040,JCARD(4,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 590
      JCOL=35
      CALL PRNT
  590 DECODE(7,1060,JCARD(4,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 600
      JCOL=37
      CALL PRNT
  600 DECODE(9,1080,JCARD(4,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 610
      JCOL=39
      CALL PRNT
  610 DECODE(6,1050,JCARD(5,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 620
      JCOL=46
      CALL PRNT
  620 DECODE(8,1070,JCARD(5,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 630
      JCOL=48
      CALL PRNT
  630 DECODE(10,1090,JCARD(5,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 640
      JCOL=50
      CALL PRNT
  640 DECODE(2,1010,JCARD(6,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 650
      JCOL=52
      CALL PRNT
  650 DECODE(4,1030,JCARD(6,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 0) GO TO 660
      JCOL=54
      CALL PRNT
  660 DECODE(5,1040,JCARD(6,7)) JC
      IF(JC .EQ. 2 .OR. JC .EQ. 3 .OR. JC .EQ. 0) GO TO 700
      JCOL=55
      CALL PRNT
  700 CONTINUE
C     P.26, COL.67
      DECODE(7,1060,JCARD(7,7)) IC
      IF(IC .NE. 2) GO TO 710
      ICD=6
      ICOL=67
      DECODE(16,1250,JCARD(7,7)) JC
 1250 FORMAT(7X,I9)
      IF(JC .EQ. 0) GO TO 710
      JCD=8
      JCOL=76
      CALL PRNT
  710 CONTINUE
C     P.24, COL.45
      DECODE(5,1040,JCARD(5,8)) IC
      IF(IC .NE. 1) GO TO 780
      ICD=9
      ICOL=45
      DECODE(4,1030,JCARD(5,8)) JC
      IF(JC .EQ. 1) GO TO 750
      JCD=9
      JCOL=44
      CALL PRNT
  750 DECODE(1,1000,JCARD(6,8)) JC
      IF(JC .EQ. 1) GO TO 760
      DECODE(2,1010,JCARD(5,8)) JC
      IF(JC .EQ. 1) GO TO 760
      JCD=4
      JCOL=41
      CALL PRNT
  760 CONTINUE
C     P.24, COL.41
      DECODE(1,1000,JCARD(5,8)) IC
      ICD=9
      ICOL=41
      IF(IC .EQ. 2) GO TO 770
      DECODE(4,1030,JCARD(5,8)) IC
      ICD=9
      ICOL=44
      IF(IC .EQ. 2) GO TO 770
      GO TO 780
  770 DECODE(5,1040,JCARD(5,8)) JC
      IF(JC .EQ. 3) GO TO 780
      JCD=9
      JCOL=45
      CALL PRNT
  780 CONTINUE
C     P.27, COL.38
      DECODE(8,1070,JCARD(4,9)) IC
      DO 790 I=4,8
      IF(IC .EQ. I) GO TO 800
  790 CONTINUE
      GO TO 810
  800 DECODE(7,1060,JCARD(5,9)) IC
      DECODE(8,1070,JCARD(5,9)) JC
      IF(IC .EQ. JC) GO TO 810
      ICD=10
      ICOL=47
      JCD=10
      JCOL=48
      CALL PRNT
  810 CONTINUE
C     P.28, COL.65-70
      DECODE(10,1260,JCARD(7,9)) IC
 1260 FORMAT(4X,I6)
      IF(IC .EQ. 0) GO TO 830
      ICD=10
      ICOL=70
      DECODE(4,1080,JCARD(5,9)) JC
      IF(JC .EQ. 1) GO TO 830
      JCD=10
      JCOL=49
      CALL PRNT
  830 CONTINUE
C     P.28, COL.71
      DECODE(1,1000,JCARD(8,9)) IC
      IF(IC .NE. 2 .AND. IC .NE. 4) GO TO 870
      ICD=10
      ICOL=71
      JCD=11
      DECODE(6,1050,JCARD(2,10)) JC
      IF(JC .EQ. 3) GO TO 840
      JCOL=16
      CALL PRNT
  840 DECODE(7,1060,JCARD(2,10)) JC
      IF(JC .EQ. 3) GO TO 850
      JCOL=17
      CALL PRNT
  850 DECODE(8,1070,JCARD(2,10)) JC
      IF(JC .EQ. 3) GO TO 860
      JCOL=18
      CALL PRNT
  860 DECODE(9,1080,JCARD(2,10)) JC
      IF(JC .EQ. 3) GO TO 870
      JCOL=19
      CALL PRNT
  870 CONTINUE
C
C     P.32, COL.35
      DECODE(5,1040,JCARD(4,12)) IC
      IF(IC .LT. 2 .OR. IC .GT. 3) GO TO 880
      ICD=13
      ICOL=35
      DECODE(6,1050,JCARD(5,12)) JC
      IF(JC .EQ. 3) GO TO 880
      JCD=13
      JCOL=46
      CALL PRNT
  880 CONTINUE
C     P.38, COL.68 (47)
      DECODE(8,1070,JCARD(7,12)) IC
      IF(IC .NE. 3) GO TO 900
      ICD=13
      ICOL=68
      DECODE(10,1270,JCARD(2,12)) JC
 1270 FORMAT(8X,I2)
      IF(JC .GT. 7 .OR. JC .EQ. 0) GO TO 900
      JCD=13
      JCOL=20
      CALL PRNT
  900 CONTINUE
C     P.34, COL.65-66
      DECODE(6,1280,JCARD(7,12)) IC
 1280 FORMAT(4X,I2)
      ICD=13
      ICOL=66
      JCOL=22
      DO 910 I=13,44
      DECODE(2,1010,JCARD(3,I)) JC
      IF(IC .GE. JC .OR. JC .GT. 6) GO TO 910
      JCD=I+1
      CALL PRNT
  910 CONTINUE
      IER=IERR
      RETURN
      END
      SUBROUTINE PRNT
C
C     PRINT ROUTINE FOR JC = INTEGER
      DIMENSION JCARD(8,44)
      COMMON JCARD,ICD,ICOL,IC,JCD,JCOL,JC,IERR
      IERR=1
      JCDM1=JCD-1
      IF(JCDM1 .EQ. 0) JCDM1=1
      PRINT 1100,ICD,ICOL,IC,JCD,JCOL,JC,(JCARD(I,JCDM1),I=1,8)
 1100 FORMAT(1H0,4HCD.I2,5H COL.I2,2H =I3,9H BUT, CD.I2,5H COL.I2,2H =I3
     1        /1X,8(9X,1H.)/1X,8A10 )
      RETURN
      END
      SUBROUTINE PRNTA
```

```
C
C      PRINT ROUTINE FOR JC = BCD
       DIMENSION JCARD(8,44)
       COMMON JCARD,ICD,ICOL,IC,JCD,JCOL,JC,IERR
       IERR=1
       PRINT 1100,ICD,ICOL,IC,JCD,JCOL,JC,(JCARD(I,JCD-1),I=1,8)
 1100  FORMAT(1H0,3HCD.I2,5H COL.I2,2H =I3,9H BUT, CD.I2,5H COL.I2,3H = ,
      1        A3/1X,8(9X,1H.)/1X,8A10 )
       RETURN
       END
-
-
-
```

APPENDIX E

SELECT

Appendix E contains the variable definitions, flow chart, and computer program listing of the SELECT is described in Section III-A of this volume.

VARIABLE DEFINITIONS–SELECT

IFMT(8, 3)–Format of three cards with active data
IFT(8)–Format of card being worked on
ICD(3)–Card number of three card with active data
ICL(3)–Last column of active data on each of the three cards
IX(3)–The active data (coded values of three variables either used to filter data or to be printed as a subset of the data file)
JCARD(8, 44)–The stored data from a single case (11 cards for vehicle file or 44 cards for driver or occupant file)
NUM–Number of active variables
NO–Number of cases processed
NOA–Number of cases accepted
NOR–Number of cases rejected
J–Counting variable used in a loop
I–Counting variable used in a loop
JCD–The active variable card being processed
JCL–The active variable last column being processed
TAPE 1–The input file
TAPE 2–An output file containing a subset of the input file
TAPE 3–An output file containing a second subset of the input file

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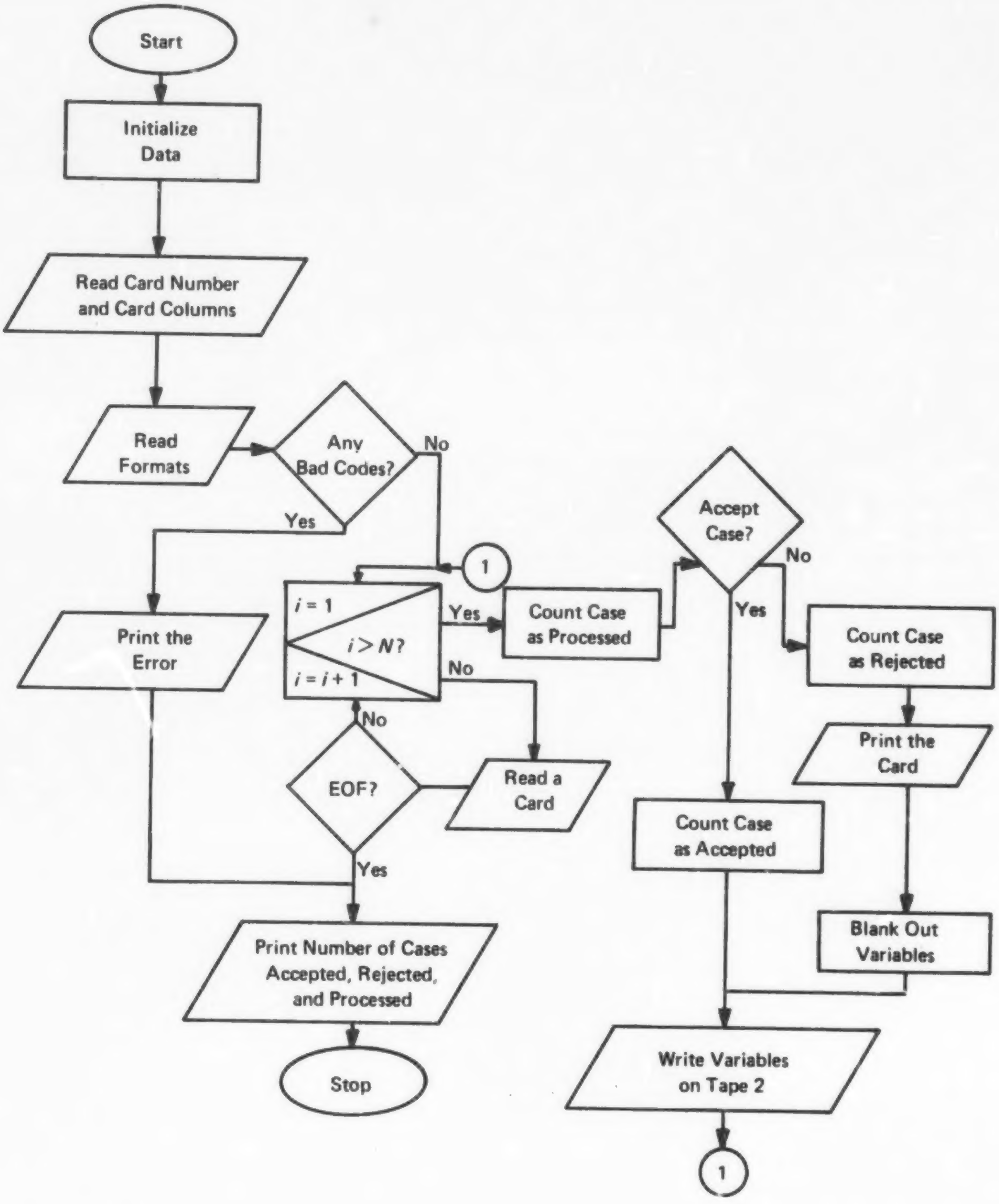
FLOWCHART—PROGRAM SELECT


Start
Initialize Data
Read Card Number and Card Columns
Read Formats
Any Bad Codes?
No
Yes
Print the Error
1
i = 1
i > N?
i = i + 1
Yes
No
No
Count Case as Processed
Accept Case?
No
Yes
Count Case as Rejected
Print the Card
Blank Out Variables
EOF?
Yes
Read a Card
Count Case as Accepted
Print Number of Cases Accepted, Rejected, and Processed
Stop
Write Variables on Tape 2
1

```
                    PROGRAM SELECT(INPUT,OUTPUT,TAPE1,TAPE2,TAPE3)
              C
              C     SELECTS DATA RECORDS ACCORDING TO STATEMENT 5000
000003              DIMENSION IFMT(8,3),IFT(8),ICD(3),ICL(3),IX(3),JCARD(8,44)
000003              REWIND 1
000005              REWIND 2
000007              REWIND 3
000011              PRINT 1100
000015         1100 FORMAT(1H1)
              C
              C     READ CARD NO. AND ENDING CC FOR EACH ACTIVE VARIABLE
              C     NUM DEFAULTS TO 3 ACTIVE VARIABLES
000015              READ 1010,(ICD(I),ICL(I),I=1,3),NUM
000033         1010 FORMAT(8I10)
000033              NO=0
000034              NOA=0
000035              NOR=0
000036              IF(NUM .LT. 2) NUM=3
000041              NUM1=NUM-1
              C
              C     READ VARIABLE FORMAT STATEMENT FOR EACH ACTIVE VARIABLE
000043              DO 100 J=1,NUM
000044              READ 1000,(IFMT(I,J),I=1,8)
000056          100 CONTINUE
000061         1000 FORMAT(8A10)
              C
              C     CHECK COLUMN AND CARD NUMBER LIMITS
000061              DO 120 I=1,NUM
000062              IF(ICD(I) .LT. 1 .OR. ICD(I) .GT. 45) GO TO 150
000072              IF(ICL(I) .LT. 1 .OR. ICL(I) .GT. 80) GO TO 150
000102              IF(ICD(I) .GT. 2) ICD(I)=ICD(I)-1
000107          120 CONTINUE
              C
              C     DATA READ LOOP
000112          140 CONTINUE
              C     READ 1000,JCARD
000112              DO 145 J=1,44
000114              READ (1,1000) (JCARD(I,J),I=1,8)
000126              IF(EOF,1) 170,145
000131          145 CONTINUE
000133              GO TO 140
000134          150 PRINT 1110,I,ICD(I),ICL(I)
000146         1110 FORMAT(1H0,19HERROR IN DEFINITION,I2,6H  CARD,I3,6H  COL.,I3 )
000146          170 CONTINUE
000146              PRINT 1120,NOA,NOR,NO
000160         1120 FORMAT(1H0,8HDRIVERS ,I4,9X,8HFRONTAL ,I4,9X,9HPROCESSED,I4 )
000160              REWIND 1
000162              ENDFILE 2
000164              ENDFILE 3
000166              REWIND 3
000170              STOP
000172          190 CONTINUE
000172              NO=NO+1
000174              DO 230 J=1,NUM
000175              JCD=ICD(J)
000177              JCL=ICL(J)
000200              DO 210 I=1,8
```

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```
000202          IFT(1)=IFMT(I,J)
000207      210 CONTINUE
000211          DECODE(JCL,IFT,JCARD(1,JCD)) IX(J)
000222     5000 IF(IX(1) .NE. 1) GO TO 140
000224      230 CONTINUE
000227          DO 240 J=1,44
000230          WRITE (2,1000) (JCARD(I,J),I=1,8)
000242      240 CONTINUE
000244          NOA=NOA+1
000246          IF(IX(2) .NE. 1HF ) GO TO 140
000250          DO 250 J=1,44
000251          WRITE (3,1000) (JCARD(I,J),I=1,8)
000263      250 CONTINUE
000265          NOR=NOR+1
000267          GO TO 140
000267          END
```

APPENDIX F

BMD PROGRAMS SAMPLE OUTPUT

EXPLANATION OF THE COMPUTER PRINTOUT FOR BMD PROGRAMS

The BMD04D program output is almost self-explanatory. The variables are numbered and listed from left to right across the page, and then from top to bottom down the page in the same order that they are read from the case.

The first page of the BMD05D program output is a listing of the input parameters for that particular problem. The second page is a listing of the variable's coded values. The third page is the histogram with the frequency scale on the left- and right-hand side and the categories of the variable across the top and bottom.

The BMD08D program output is straightforward. First, the specified program parameters are listed. Then comes the title of the table, the number of replications (cases), and the minimum and maximum allowed values for the variables to be counted in the table. Next the bivariate table is printed with the two variables' number, name, and codes along the left-hand side and the bottom. The chi-square and degrees of freedom are calculated from the frequencies in the table. If there are less than 50, the values of the variables that do not fit the specified limits are listed. The last of the problem output is the correlation coefficient, and the mean and standard deviation of the variables. These statistics are calculated from all the values of the data, including those outside the specified limits.

The BMD02S program first lists the rejects. Rejects are those values which do not fit into any of the categories set up for the corresponding variable. Before the bivariate table, the categories for each of the variables are displayed. Then the chi-square and several other statistics are given. After the statistics there are three tables; the table percentages, the row percentages, and the column percentages. A special set of collapsed category tables are optionally available. The program combines rows and columns so that no specific cell expected frequency is less than a specified value. This is a very good option to improve the chi-square statistic.

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```
BMD08D - ALPHANUMERIC FREQUENCY COUNT - VERSION OF  MAY  22, 1964
HEALTH SCIENCES COMPUTING FACILITY, UCLA
PROBLEM CODE V.1-10
NUMBER OF OBSERVATIONS =    520

*  VARIABLE NUMBER      1  **  VARIABLE NUMBER      2  **  VARIABLE NUMBER      3  **  VARIABLE NUMBER      4  **  VARIABLE NUMBER      5  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*    SYMBOL  FREQUENCY     **    SYMBOL  FREQUENCY     **    SYMBOL  FREQUENCY     **    SYMBOL  FREQUENCY     **    SYMBOL  FREQUENCY     *

*      0        36         **      0        23         **      0        29         **      0         9         **      0       296         *
*      1        61         **      1        80         **      1        28         **      1        35         **      1        31         *
*      2       169         **      2        66         **      2        58         **      2        43         **      2         2         *
*      4         4         **      4        27         **      3        28         **      3        59         **      3        11         *
*      6        91         **      5        56         **      4       200         **      4        51         **      4        28         *
*      7        66         **      7        36         **      5        28         **      5        37         **      5         2         *
*      8        24         **      8       171         **      6        27         **      6        93         **      6         4         *
*      9        72         **      9        61         **      7        43         **      7       134         **      7         3         *
*    BLANK      11         **                          **      8        32         **      8        57         **    BLANK     143         *
*                          **                          **      9        47         **                          **                          *


*  VARIABLE NUMBER      6  **  VARIABLE NUMBER      7  **  VARIABLE NUMBER      8  **  VARIABLE NUMBER      9  **  VARIABLE NUMBER     10  *
*-------------------------**-------------------------**-------------------------**-------------------------**-------------------------*
*    SYMBOL  FREQUENCY     **    SYMBOL  FREQUENCY     **    SYMBOL  FREQUENCY     **    SYMBOL  FREQUENCY     **    SYMBOL  FREQUENCY     *

*      0        75         **      0        42         **      1         1         **      0         8         **      0       359         *
*      1       132         **      1        62         **      7       519         **      1       308         **    BLANK     161         *
*      2        83         **      2        61         **                          **      2       204         **                          *
*      3        46         **      3        54         **                          **                          **                          *
*      4        21         **      4        53         **                          **                          **                          *
*      5        19         **      5        47         **                          **                          **                          *
*      6        24         **      6        45         **                          **                          **                          *
*      7        15         **      7        59         **                          **                          **                          *
*      8        20         **      8        44         **                          **                          **                          *
*      9        15         **      9        47         **                          **                          **                          *
*    BLANK      70         **                          **                          **                          **                          *
```

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```
BMD05D GENERAL PLOT - INCLUDING HISTOGRAM - VERSION OF AUG. 18, 1969
HEALTH SCIENCES COMPUTING FACILITY,UCLA


PROBLEM CODE . . .  PCLUCK
NO. OF VARIABLES . . .    1
NO. OF CASES . . . .    520
NO. OF SELECTION CARDS    1
NO. OF VARIABLES ADDED    0
NO. OF TRAGEN CARDS  .    1
NO. OF FORMAT CARDS  .    1


      TRANS GENERATOR CARD(S)

CARD    NEW      TRANS    ORIG.   ORIG. VAR(B)
 NO. VARIABLE    CODE    VAR(A)   OR CONSTANT
  1      1         6        1       33.00000
```

```
BMD05D GENERAL PLOT - INCLUDING HISTOGRAM - VERSION OF AUG. 15, 1964
HEALTH SCIENCES COMPUTING FACILITY,UCLA

 HISTOGRAM OF VARIABLE    1

     2.0000    12.0000     2.0000    12.0000     2.0000    12.0000    12.0000     1.0000    11.0000     9.0000
    12.0000    11.0000    12.0000    11.0000     9.0000     8.0000     2.0000    12.0000    12.0000    12.0000
     3.0000     1.0000     2.0000    12.0000     9.0000    12.0000     9.0000    33.0000     2.0000    11.0000
    12.0000     9.0000     6.0000    11.0000    12.0000     1.0000     2.0000    12.0000     0.0000     3.0000
    12.0000     3.0000    12.0000    11.0000     3.0000     5.0000    12.0000     1.0000    12.0000     1.0000
    12.0000    12.0000    12.0000    12.0000     1.0000    11.0000    12.0000    12.0000    12.0000     0.0000
    12.0000     1.0000    12.0000    12.0000     5.0000     9.0000    11.0000     6.0000     0.0000     1.0000
     1.0000    12.0000    12.0000     3.0000    12.0000    12.0000     1.0000    12.0000     2.0000    12.0000
    10.0000    12.0000     0.0000     0.0000     0.0000     1.0000    12.0000    12.0000    12.0000    11.0000
    12.0000    12.0000    12.0000     3.0000     0.0000    11.0000     3.0000     9.0000     3.0000    10.0000
    12.0000     6.0000    12.0000     6.0000    11.0000     1.0000    12.0000     4.0000    12.0000     1.0000
    12.0000     2.0000     1.0000    10.0000    12.0000     3.0000    10.0000     1.0000    11.0000     5.0000
    11.0000     1.0000     1.0000     9.0000    12.0000     0.0000     1.0000    11.0000     1.0000    12.0000
    12.0000     0.0000    12.0000     3.0000    11.0000     2.0000     1.0000     9.0000     0.0000    12.0000
     3.0000    12.0000     6.0000    11.0000     2.0000    10.0000    12.0000    12.0000    12.0000     6.0000
    11.0000    11.0000    11.0000    11.0000     5.0000    12.0000     2.0000     8.0000     9.0000     6.0000
    11.0000    12.0000    12.0000     3.0000     0.0000    12.0000    12.0000     1.0000     3.0000    12.0000
    11.0000     7.0000    12.0000    11.0000    11.0000    12.0000    11.0000     1.0000    10.0000     3.0000
     9.0000    12.0000     3.0000     9.0000     9.0000    12.0000    12.0000    12.0000     1.0000    12.0000
    12.0000     0.0000     0.0000     0.0000    12.0000    11.0000     3.0000    10.0000     6.0000     2.0000
     1.0000     0.0000     0.0000    11.0000     1.0000     9.0000     9.0000    12.0000     0.0000    12.0000
     0.0000    12.0000    10.0000    11.0000    12.0000     6.0000     1.0000    10.0000     8.0000    11.0000
     0.0000    12.0000     0.0000     9.0000    12.0000    12.0000    10.0000     6.0000    12.0000     0.0000
    12.0000     6.0000    12.0000     3.0000    12.0000    11.0000    10.0000     9.0000    12.0000    12.0000
     6.0000     0.0000     1.0000    12.0000     2.0000    10.0000    12.0000    12.0000    12.0000     8.0000
    12.0000     9.0000     0.0000     1.0000     9.0000    12.0000     1.0000    12.0000    12.0000     9.0000
    10.0000     2.0000    12.0000    11.0000    11.0000     1.0000    11.0000    11.0000     0.0000     3.0000
    12.0000    12.0000    12.0000    12.0000     1.0000    11.0000    11.0000    11.0000     1.0000     1.0000
     1.0000    11.0000     3.0000    12.0000    11.0000     1.0000     0.0000     1.0000    12.0000    10.0000
     9.0000    10.0000     6.0000     1.0000     2.0000    12.0000    12.0000    12.0000     6.0000    12.0000
    12.0000     0.0000    12.0000    11.0000    11.0000    11.0000    12.0000    11.0000    11.0000     3.0000
     1.0000     0.0000     9.0000     1.0000     0.0000    12.0000    12.0000    12.0000    12.0000    12.0000
     0.0000    12.0000    12.0000     2.0000    12.0000     6.0000     0.0000    12.0000    12.0000     1.0000
    12.0000     1.0000    11.0000    12.0000     3.0000    12.0000     2.0000    12.0000     2.0000    10.0000
    12.0000    12.0000    12.0000    12.0000    12.0000    12.0000    12.0000    12.0000    12.0000     1.0000
     6.0000    12.0000     6.0000     7.0000     6.0000     3.0000     3.0000    12.0000    12.0000    12.0000
    -0.0000     0.0000    12.0000     3.0000     9.0000    11.0000    12.0000    11.0000    12.0000     0.0000
     0.0000    12.0000    11.0000    12.0000     3.0000     0.0000    12.0000    10.0000     2.0000    12.0000
    11.0000     3.0000     1.0000    11.0000    11.0000     2.0000    12.0000     6.0000    12.0000    11.0000
    12.0000    12.0000     3.0000    11.0000    11.0000    11.0000    10.0000     0.0000    11.0000     0.0000
     3.0000    12.0000    12.0000     2.0000     1.0000    12.0000    12.0000     2.0000    11.0000     1.0000
    12.0000    12.0000    10.0000     1.0000     6.0000    12.0000    11.0000    10.0000    12.0000    10.0000
    11.0000     1.0000     1.0000     1.0000     1.0000     1.0000    12.0000     9.0000    12.0000     3.0000
    11.0000     0.0000    11.0000    11.0000    12.0000    12.0000    11.0000    12.0000     9.0000     1.0000
     7.0000     2.0000    11.0000    11.0000    12.0000    12.0000    12.0000     9.0000    12.0000     9.0000
    12.0000     3.0000    12.0000     3.0000    12.0000    12.0000    -0.0000    12.0000    11.0000     2.0000
    12.0000    12.0000    11.0000    12.0000    12.0000    11.0000    12.0000    12.0000     9.0000     1.0000
    12.0000    10.0000    12.0000    12.0000    12.0000    12.0000    12.0000    -0.0000     1.0000    12.0000
    12.0000    12.0000     2.0000     2.0000    12.0000    12.0000     6.0000    12.0000    12.0000    12.0000
    -0.0000    12.0000    12.0000    12.0000    12.0000    11.0000    12.0000    -0.0000    12.0000    12.0000
    12.0000    12.0000    12.0000     6.0000    11.0000    -0.0000    12.0000    12.0000     2.0000     1.0000
     1.0000    12.0000     1.0000    12.0000     9.0000    12.0000    12.0000    -0.0000    12.0000    12.0000
```

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```
BMDO5D GENERAL PLOT - INCLUDING HISTOGRAM - VERSION OF AUG. 18, 1964
HEALTH SCIENCES COMPUTING FACILITY,UCLA

                                        P R I M A R Y   V D I   O C L O C K   P O S I T I O N
 MIN =     -.000000                                                                              MAX =     33.000000
       -.0   2.0   4.0   6.0   8.0  10.0  12.0  14.0  16.0  18.0  20.0  22.0  24.0  26.0  28.0  30.0  32.0
          1.0   3.0   5.0   7.0   9.0  11.0  13.0  15.0  17.0  19.0  21.0  23.0  25.0  27.0  29.0  31.0
       +++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...
TOP LEFT HAND SCALE IS 250.0
250.0 +                                                                                                      + 250.0
245.0 .                                                                                                      . 245.0
240.0 .                                                                                                      . 240.0
235.0 .                                                                                                      . 235.0
230.0 .                                                                                                      . 230.0
225.0 +                                                                                                      + 225.0
220.0 .                                                                                                      . 220.0
215.0 .                                                                                                      . 215.0
210.0 .                                                                                                      . 210.0
205.0 .                                    ---                                                               . 205.0
200.0 +                                    111                                                               + 200.0
195.0 .                                    111                                                               . 195.0
190.0 .                                    111                                                               . 190.0
185.0 .                                    111                                                               . 185.0
180.0 .                                    111                                                               . 180.0
175.0 +                                    111                                                               + 175.0
170.0 .                                    111                                                               . 170.0
165.0 .                                    111                                                               . 165.0
160.0 .                                    111                                                               . 160.0
155.0 .                                    111                                                               . 155.0
150.0 +                                    111                                                               + 150.0
145.0 .                                    111                                                               . 145.0
140.0 .                                    111                                                               . 140.0
135.0 .                                    111                                                               . 135.0
130.0 .                                    111                                                               . 130.0
125.0 +                                    111                                                               + 125.0
120.0 .                                    111                                                               . 120.0
115.0 .                                    111                                                               . 115.0
110.0 .                                    111                                                               . 110.0
105.0 .                                    111                                                               . 105.0
100.0 +                                    111                                                               + 100.0
 95.0 .                                    111                                                               .  95.0
 90.0 .                                    111                                                               .  90.0
 85.0 .                                    111                                                               .  85.0
 80.0 .                                    111                                                               .  80.0
 75.0 +                                    111                                                               +  75.0
 70.0 .                                 ---111                                                               .  70.0
 65.0 .                                 111111                                                               .  65.0
 60.0 .                                 111111                                                               .  60.0
 55.0 .   ---                           111111                                                               .  55.0
 50.0 +   111                           111111                                                               +  50.0
 45.0 .---111                           111111                                                               .  45.0
 40.0 .111111                           111111                                                               .  40.0
 35.0 .111111                           111111                                                               .  35.0
 30.0 .111111------               ---   111111                                                               .  30.0
 25.0 +111111111111               111   111111                                                               +  25.0
 20.0 .111111111111      ---      111---111111                                                               .  20.0
 15.0 .111111111111      111      111111111111                                                               .  15.0
 10.0 .111111111111      111      111111111111                                                               .  10.0
  5.0 .111111111111   ---111------111111111111                                                               .   5.0
       +++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...+++...
       -.0   2.0   4.0   6.0   8.0  10.0  12.0  14.0  16.0  18.0  20.0  22.0  24.0  26.0  28.0  30.0  32.0
          1.0   3.0   5.0   7.0   9.0  11.0  13.0  15.0  17.0  19.0  21.0  23.0  25.0  27.0  29.0  31.0
```

```
BMD08D - CROSS TABULATION WITH VARIABLE STACKING - VERSION OF JULY 16, 1964
HEALTH SCIENCES COMPUTING FACILITY,UCLA
PROBLEM CODE . . . . . . . NATOIV
NO. OF VARIABLES . . . . . . .    5
NO. OF CASES . . . . . . . . .  916
NO. OF TRNGEN CARD(S)  . . .      1
NO. OF VARIABLE FORMAT CARD(S)  2


CARD     K       TRANS    ORIG.   ORIG. VAR(J)
 NO.  VARIABLE    CODE    VAR(I)  OR CONSTANT   VAR(L)     VAR(M)     VAR(N)
  1       6        82        2          3         -0         -0         -0   -0    -0    -0    -0    -0

    AIS    IS CROSS TABULATED WITH      MODYR    OR,

VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  1


NUMBER OF REPLICATIONS=  916


VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     5       9       0
     1      73      58


( 5)           (EXTREME RIGHT VALUE IS ROW TOTAL)
AIS
   9 *       1                               2               5   2    10
   8 *                       1           1   2   1   4   3   4   1    17
   7 *                                   1   2   1   7   1   2   2    16
   6 *                                   1   2       4   4   5        16
   5 *                                       1       3   7   7   2    20
   4 *                           1       3   2   4   8  10  14        42
   3 *   1       1                   4   4   7  12  16  18  31   9   103
   2 *           1   2   1   2   1   6   6  10  13  34  46  53  20   195
   1 *           1   5   7   2   5   6   4  23  20  36  80  83  28   300
   0 *                   2           2   1  11  14  17  34  57  15   153
      ***********************************************************************
 ( 1)  58      60      62      64      66      68      70      72
MODYR      59      61      63      65      67      69      71

COLUMN   1       3      10       7      21      65     203      79
 TOTAL       1       7       5      18      62     129     261

GRAND TOTAL=   872


CHI-SQUARE (OF TABLE)       198.25914
DF=  126

VALUES NOT ENTERED   44
  CASE NO.      VARIABLE  5     VARIABLE  1
      3             99              62
     23             99              67
     25             99              71
     26             99              71
     27             99              71
     28             10              71
    104             99              71
```

```
     139            32            71
     285            99            68
     340            99            70
     341            99            71
     342            99            71
     343            99            70
     344            99            70
     345            99            71
     356            98            64
     357            98            64
     384            99            71
     430            99            70
     432            99            70
     463            10            69
     482            10            70
     673             1            57
     713            98            70
     728             0             0
     729             0             0
     730             0             0
     745            98            70
     747            98            69
     759            98            69
     762            98            69
     799            99            67
     902             2             0
     903             1             0
     904             1             0
     905             1             0
     906             0             0
     907             0             0
     908             1             0
     909             0             0
     912             1             0
     913             1             0
     914             0             0
     915             0             0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT   .0244
MEAN(  1)=        68.29913   SD(  1)=        9.09993
MEAN(  5)=         4.52074   SD(  5)=       15.60778
```

```
BMD02S - CONTINGENCY TABLE ANALYSIS - VERSION OF APRIL 21, 1965
HEALTH SCIENCES COMPUTING FACILITY, UCLA
FSU COMPUTING CENTER VERSION.  DECEMBER,1966.

PROBLEM IDENTIFICATION   WEIGHT

 VARIABLE    NO. OF REJECTS             VARIABLE    NO. OF REJECTS             VARIABLE    NO. OF REJECTS

 1.0 WEIGHT      12
                                                                               1.0 WEIGHT      12
                                                                               2.0 AIS         31
```

```
ORIGINAL CATEGORIES

   ROW VARIABLE   2.0 AIS    BOUNDARY POINTS   0.00    1.00    2.00    3.00    4.00    5.00    6.00    7.00    8.00    9.00
                                              10.00

COLUMN VARIABLE   1.0 WEIGHT BOUNDARY POINTS   0.00 500.001000.001500.002000.002500.003000.003500.004000.004500.00
                                             5000.005500.006000.00

FREQUENCY TABLE

       1     2     3     4     5     6     7     8     9    10    11    12


  1   11    53    55    33     2     0     0     0     0     1     0     0  155
  2    4    91   107    95     7     0     0     0     0     0     0     0  304
  3    7    94    59    31     2     3     0     0     0     0     0     0  196
  4    4    51    30    15     2     0     0     0     0     0     0     0  102
  5    0    24     7    10     0     0     0     0     0     0     0     1   42
  6    0     7     9     3     0     1     0     0     0     0     0     0   20
  7    0     8     5     2     1     0     0     0     0     0     0     0   16
  8    0     8     6     2     0     0     0     0     0     0     0     0   16
  9    1     7     3     6     0     0     0     0     0     0     0     0   17
 10    0     3     2     0     4     0     0     0     0     0     0     0    9
      27   346   283   197    18     4     0     0     0     1     0     1  877

        CHI-SQUARE                189.3228
     DEGREES OF FREEDOM                 99
       CHI-SQUARE/D.F.              1.9124
    CONTINGENCY COEFFICIENT          .4214
         -2 LOG(MLR)              113.3938      (MLR = MAXIMUM LIKELIHOOD RATIO)

TABLE PERCENTAGES (TENTHS OF A PERCENT)

       1     2     3     4     5     6     7     8     9    10    11    12


  1   13    60    63    38     2     0     0     0     0     1     0     0  177
  2    5   104   122   108     8     0     0     0     0     0     0     0  347
  3    8   107    67    35     2     3     0     0     0     0     0     0  223
  4    5    58    34    17     2     0     0     0     0     0     0     0  116
  5    0    27     8    11     0     0     0     0     0     0     0     1   48
  6    0     8    10     3     0     1     0     0     0     0     0     0   23
  7    0     9     6     2     1     0     0     0     0     0     0     0   18
  8    0     9     7     2     0     0     0     0     0     0     0     0   18
  9    1     8     3     7     0     0     0     0     0     0     0     0   19
 10    0     3     2     0     5     0     0     0     0     0     0     0   10
      31   395   323   225    21     5     0     0     0     1     0     1 1000

ROW PERCENTAGES (TENTHS OF A PERCENT)

       1     2     3     4     5     6     7     8     9    10    11    12


  1   71   342   355   213    13     0     0     0     0     6     0     0 1000
  2   13   299   352   313    23     0     0     0     0     0     0     0 1000
  3   36   480   301   158    10    15     0     0     0     0     0     0 1000
  4   39   500   294   147    20     0     0     0     0     0     0     0 1000
  5    0   571   167   238     0     0     0     0     0     0     0    24 1000
  6    0   350   450   150     0    50     0     0     0     0     0     0 1000
  7    0   500   313   125    63     0     0     0     0     0     0     0 1000
 8    0  500  375  125    0    0    0    0    0    0    0    0 1000
 9   59  412  176  353    0    0    0    0    0    0    0    0 1000
10    0  333  222    0  444    0    0    0    0    0    0    0 1000
     31  345  323  225   21    5    0    0    0    1    0    1 1000

COLUMN PERCENTAGES (TENTHS OF A PERCENT)

      1    2    3    4    5    6    7    8    9   10   11   12


 1  407  153  144  168  111    0    0    0    0 1000    0    0  177
 2  148  263  378  482  384    0    0    0    0    0    0    0  347
 3  259  272  208  157  111  250    0    0    0    0    0    0  223
 4  148  147  106   76  111    0    0    0    0    0    0    0  116
 5    0   69   25   51    0    0    0    0    0    0    0 1000   48
 6    0   20   32   15    0  250    0    0    0    0    0    0   23
 7    0   23   18   10   56    0    0    0    0    0    0    0   18
 8    0   23   21   10    0    0    0    0    0    0    0    0   18
 9   37   20   11   39    0    0    0    0    0    0    0    0   19
10    0    9    7    0  222    0    0    0    0    0    0    0   10
   1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000
```

```
COLLAPSED CATEGORIES (EXPECTED NUMHERS GREATER THAN  2)

   ROW VARIABLE   2.0 AIS    BOUNDARY POINTS   0.00   1.00   2.00   3.00   4.00   5.00  10.00

COLUMN VARIABLE   1.0 WEIGHT BOUNDARY POINTS   0.001000.001500.006000.00

FREQUENCY TABLE

      1    2    3


1    64   55   36  155
2    95  107  102  304
3   101   59   36  196
4    55   30   17  102
5    24    7   11   42
6    34   25   19   78
    373  283  221  877

        CHI-SQUARE                 38.4154
     DEGREES OF FREEDOM              10
       CHI-SQUARE/D.F.              3.8415
   CONTINGENCY COEFFICIENT           .2049
        -2 LOG(MLR)                39.3104     (MLR = MAXIMUM LIKELIHOOD RATIO)

TABLE PERCENTAGES (TENTHS OF A PERCENT)

      1    2    3


1    73   63   41  177
2   108  122  116  347
3   115   67   41  223
4    63   34   19  116
5    27    8   13   48
6    39   29   22   89
    425  323  252 1000

ROW PERCENTAGES (TENTHS OF A PERCENT)

      1    2    3


1   413  355  232 1000
2   313  352  336 1000
3   515  301  184 1000
4   539  294  167 1000
5   571  167  262 1000
6   436  321  244 1000
    425  323  252 1000

COLUMN PERCENTAGES (TENTHS OF A PERCENT)

      1    2    3


1   172  194  163  177
2   255  378  462  347
3   271  208  163  223
4   147  106   77  116
5    64   25   50   48
6    91   88   86   89
   1000 1000 1000 1000
```

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INTERNATIONAL ACCIDENT REPORT FIELD FORM INSTRUCTION MANUAL

This document contains instructions for accident investigation personnel in the use of a standardized accident report form. The accident report form culminates several months of intense effort by representatives of nine nations to evolve a protocol for investigating accidents that will prove both feasible and useful. The form is relatively brief; it was designed to provide information that will give traffic safety analysts a fundamental perspective of accident severity. Used on an international basis, it could provide the key for the general exchange of common data between nations and industries.

The accident report form (called the Field Form) is intended for use in the field; it is not a computer coding form. Data extracted from the Field Form will be coded and entered on a Coding Form by the analysis group at a later time. Data from the Coding Form (not included in this report) can then be keypunched on punched cards in preparation for entry into the national or international accident data file.

The purpose of this instruction manual is to provide the accident investigator with a standard interpretation of the questions asked in the Field Form. This manual is the first published attempt to provide standardized definitions and, although it was intended that these definitions reflect the views and opinions of the 33 participating teams in the NATO/CCMS Accident Investigation exercise, a certain amount of arbitration will undoubtedly be necessary before a concensus is reached. Nevertheless, this document is viewed as a major step forward in the program to improve international road safety.

The Field Form is divided into three basic parts: Accident Description, Vehicle Description, and Occupant Description. The Accident Description is a single page printed front and back containing general descriptive data about the environment and the circumstances of the accident. Only one Accident Description sheet is to be filled out for each accident. The Vehicle Description sheet is a single-page (printed front and back) description of the vehicle and the physical damage sustained by the vehicle. One Vehicle Description sheet must be filled out for *each vehicle* in a given accident. The Occupant Description sheet is a single page, printed front and back, containing descriptive information about each occupant in the vehicle and the injuries sustained by that occupant. One sheet must be filled out for *each occupant* in each vehicle in a given accident. The following instructions and interpretations apply to the Field Form.

Accident Description

Team Number: The team number is a unique four-digit number that will be assigned to each participating team by the Coordinating Board of the Accident Research Program. A team number will be permanently assigned to an accident investigation team upon the Board's acceptance of that team into the program. The team number will serve thereafter to identify all cases submitted by that team. No other accident investigation team will be assigned the same identifying number.

Case Number: The case number is a unique three-digit number used to identify cases submitted by an investigation team.* Each team assigns one case number to a case report starting with 001 for the first case, 002 for the second, and etc. On January 1 of each year, the case number sequence starts anew at 001.

Date of Accident: The date the accident occurred is entered–day, month, and year.

Time of Accident: The investigation agency's reported time of impact is entered; use the 24-hour clock starting at 0001 through 2400 hours. Accuracy to the nearest quarter hour is desired. Enter "unknown" if the time of the accident cannot be determined.

*A case consists of the accident description and a complete set of data on each vehicle and each occupant in a given accident. Separate case numbers are not assigned to separate vehicles involved in the same accident.

Time of Day: Indicate the light condition that existed at the time of the accident. Dawn and dusk are the half-light conditions that exist between daylight and dark. Dawn occurs between approximately 30 minutes prior to sunrise until sunrise, and dusk occurs between sunset and approximately 30 minutes after sunset. If the time of day was "night" but the surrounding area was artificially illuminated, use the descriptor "dark (but lighted)."

Accident Location: An urban location for an accident is a location within the designated boundary of a recognized community, town, city, etc. "Rural" implies accidents occurring outside these boundaries. Some difficulty may exist in transition zones in determining whether to indicate "rural" or "urban" accident location. In such cases, investigators must determine whether the area is primarily rural or urban in character. In determining the primary character of the location, consideration will be given to the proximity of housing or industrial improvements, as well as highway design characteristics and traffic flow patterns.

Type of Roadway: This question permits investigators to identify up to three roadway types such as might exist at an intersection. If only one roadway was involved, the blanks provided for the second and third roadways are not applicable.

This question should be cross referenced with "which roadway was the vehicle on before impact" in the Vehicle Description section. If any problems are encountered in selecting one of the standard descriptions provided in the list of roadway types, use the category "other" and describe the type of roadway in the space provided.

"Two-Way" means traffic flowing in opposite directions on the right-of-way. "Expressway-Autobahn" means limited access highway. "Multi-lane" and "Single Lane" mean roadways with grade crossings and intersections. "Entrance or Exit Ramp" means an access road for an expressway or autobahn.

Intersection or Cross Road (grade level): An accident that occurs within the bounds of an intersection or on the open road, far from an intersection, is easily classified. Difficulty may be encountered when the accident occurs near an intersection. The investigator must determine whether or not the intersection was a contributing factor in the accident. If the intersection was not a factor, the first choice in the list of available responses "no intersection or near intersection but . . ." should be entered in the blank. If the intersection was a factor, then the type of intersection should be determined from the remaining choices on the list.

In general, the selections are self-explanatory with one exception. A "rotary, round, traffic circle, etc.," is an intersection which contains a central circular or oval island of sufficient size usually to cause a diversion in the direction of flow of traffic around the island. If the type of intersection cannot be categorized by one of the selections in the list, use the category "other" and describe the type of intersection.

In order to determine whether or not an accident should be reported as having occurred at or near an intersection, consider such factors as vehicle speed, sight distance for all participants, environmental conditions (grade, surface covering . . .), etc.; do not arbitrarily establish a fixed distance from the intersection as the criteria. For example, in a congested residential or business area in which the buildings are constructed close to the corner and the traffic flows slowly, the distance from the intersection at which the intersection would be considered to be involved might be only a few meters, whereas on a rural, uncongested, highspeed roadway, through open fields, the distance could be several hundred meters, depending upon the circumstances of the accident.

Cloud Conditions: If possible, ascertain the extent of cloud cover that existed at the time of the collision. Partly cloudy means that there are some clouds, but the sky is not totally covered or overcast. Cloudy means that there are no clear areas in the sky. If no onsite investigation is made, circle "unknown."

Precipitation: Precipitation conditions affect both visibility conditions and vehicle traction. Select the appropriate precipitation condition that existed at the time of the accident if onsite investigations are made. "Fog-mist" indicates that no rain is readily visible but the roads are wet from light moisture in the air. "Sleet" is freezing rain without hailstones.

Traffic Control: Select one or two entries from the list of traffic control devices. "Traffic signals" are phased signals which alternately display red and green, or red, yellow, and green lights and, thereby, control or regulate the flow of traffic through an intersection or past a control point. "Flashing signals" are one color signals that flash red, yellow, etc., to signify a warning or caution to drivers.

Road/Roadside Defects or Hazardous Conditions Reported/Observed: Road or roadside defects or hazardous conditions, such as open construction, trees, or posts adjacent to the traveled roadway, etc., can have a significant influence on the severity of injuries produced by an accident. If such conditions are detected by the investigator or reported by a reliable source as having had an effect on the severity of injuries or damage produced by the accident, circle "yes." Circle "unknown" if information regarding the existence of such conditions is not available. Describe the defect or hazardous condition in detail.

Number of Vehicles Involved: Count all vehicles involved in the accident, whether contact was made or not, and enter the total number. (Noncontact vehicles are counted only if they contributed to the accident.)

Narrative: A brief but thorough narrative of the collision sequence must be supplied for this accident. The narrative will be used by the analysis group to extract details concerning the Collision Configuration and the Object Contacted codes for each vehicle. The information so obtained will then be reduced to the Coding Form and subsequently entered into the data file.

Describe how the accident occurred and list only the significant objects contacted by each vehicle, traffic intensity, vertical road characteristics (if applicable), etc. Also, report relevant comments by occupants of the vehicles and by witnesses to the accident.

The collision configuration should describe basically how the accident occurred: did it involve one or more vehicles?; were one or more of the vehicles stopped in the roadway or were all vehicles moving?; did the accident involve collision with a pedestrian or large animal?; did the accident assume some other unique characteristics?

Suggestions for the objects contacted are shown in the following list. Objects not listed may be added, but a complete description of such objects must be provided. The objects contacted should be identified as having been first contact, caused primary damage, etc.

None
Other Automobile
Ground (Rollover Only)
Guardrail
Bridge (Rail)
Sign
Ditch
Embankment (Snowbank)

Culvert
Fence
Pole or Tree
Pedestrian
Large Animal
Motorcycle
Pedacycle (Bicycle)
Train or Bus

Building
Light Truck/Pickup Truck
Tractor without Trailer
Van Delivery Truck
Straight Truck
Tractor-Trailer Combination
Multi-Purpose Vehicle
Object Disengaging from other Vehicle (i.e., loose tire)

Hydrants, Short Posts, Stumps
Mailbox (Rural), Small Posts/Trees
Pier, Pillar (e.g., Bridge Support)
Retaining Wall, Abutment
Highway Fixtures:
  Impact Attenuator
  Breakaway Fixtures
  Other: ____________________

Collision Sketch: A collision scene schematic should be sketched on the grid as closely to scale as possible. Show vehicle(s) path(s), road(s), location of traffic controls, fixed and moving objects, skid and other marks, sand, gravel, and debris, etc. Show speed limit(s). On the sketch of the road, indicate number of lanes, the lane width, and other relevant data if available. If appropriate, elevations can be shown by lightly sketched contour lines or by a cross sectional view taken along the vehicle path.

Cross reference the collision sketch with an appropriate discussion in the narrative.

Vehicle Description

Team No./Case No.: Enter the team number and the case number. One Vehicle Description form must be completed for each vehicle in the accident.

Vehicle No.: The field investigation team will assign each vehicle a distinct and separate number from a sequence starting with 1, 2, 3 . . . etc.

Vehicle Identification No.: Enter the vehicle identification number. If confidentiality problems are anticipated, enter the vehicle identification number, except do not enter the serial portion of the vehicle identification number (usually the last five or six digits).

Vehicle Make: Enter the make of the vehicle.

Vehicle Model: Enter the model of the vehicle.

Vehicle Model Year: Enter the vehicle model year.

Vehicle 5-Digit Code: The 5-digit code is a numerical sequence of numbers used to identify a general vehicle category. The 5-digit code is composed of four parts. The first digit specifies the country in which the vehicle was manufactured. The second digit relates the name of the manufacturer. The third digit identifies the particular division of the parent manufacturer, while the fourth and fifth digits specify the body type. The appropriate codes for country of manufacturer, corporate manufacturer, and manufacturing division categories are defined in Table 1. Table 2 identifies the codes for body type, i.e., the fourth and fifth digits. Table 3 contains a list of American and Canadian vehicle makes and models with the appropriate 5-digit code. Table 4 contains a list of the European and Japanese vehicles with the associated 5-digit codes.

TABLE 1. COUNTRY, CORPORATION, DIVISION IDENTIFICATION FOR 5-DIGIT CODE

1	*USA*
11	General Motors Corp.
111	Buick
112	Cadillac
113	Chevrolet
114	Oldsmobile
115	Pontiac
116	GMC Truck and Coach
12	Ford Motor Co.
121	Ford
122	Lincoln-Mercury
13	Chrysler Corp.
131	Chrysler
132	Dodge
133	Imperial
134	Plymouth
135	Desoto
14	American Motors Corp.
141	American Motors
15	Other USA Corporations
151	Checker
152	Kaiser-Jeep
153	International
154	Studebaker/Avanti
16	USA Truck Corp.
160	USA Truck Unknown Corp.
161	Brockway
	USA (Cont'd)
162	Diamond-Reo
163	FWD
164	Kenworth
165	Mack
166	Peterbilt
167	White (Autocar, Freight Liner)
168	Other USA Truck Corp.
17	USA Special
171	Flexible
172	Freuhauf
2	*Canada*
21	GM Canada*
22	Ford Canada*
3	*Australia*
31	GM (Holden)*
4	*England*
41	GM Vauxhall
42	Ford England
43	Chrysler (Cricket)*
45	British Leyland
451	Austin
452	Austin Healy
453	MG
454	Morris
455	Jaguar
456	Triumph
46	Rootes
48	Other English
5	*France*
53	Chrysler (Simca)*
55	Citroen
56	Renault
57	Peugot
58	Other French
6	*Germany*
61	GM (Opel)*
62	Ford, Germany
65	Mercedes Benz
66	Volkswagen/Porsche
67	BMW
68	Other German
7	*Italy*
75	Alfa-Romeo
76	Fiat
77	Ferrari
78	Other Italian
8	*Japan*
83	Chrysler (Colt, Cricket)*
85	Toyo (Mazda)
86	Nissan (Datsun)
87	Toyota
88	Other Japanese
9	*Other Foreign*
95	Sweden (Saab, Volvo)
96	Netherlands (DAF)
000	Unknown, Missing Data

*Corporation codes 1 to 4(b) are always the same from country to country, e.g., 12 = USA/Ford and 42 = England/Ford. Codes 5-9 have different definitions in each country.

TABLE 2. BODY TYPE IDENTIFICATION FOR 5-DIGIT CODE

*Passenger Cars**

01	Intermediate (GMA Body)
02	Standard/Full Size (B Body)
03	Luxury Sedan (C Body)
04	Limousine (D Body)
05	Personal Luxury (E Body)
06	Specialty/Pony (F Body)
07	Grand Prix (69 to date, G Body)
08	Compact (Maverick)
09	Subcompact/Mini–Non-USA (VW)
10	Super Sport (Corvette)
18	Subcompact/Mini–USA (Gremlin)
19	European Sports Cars (MG)

Size	Standard	Specialty	Sports
Mini	09, 18	–	19
Compact	08	06	10
Intermediate	01	07	–
Standard	02	05	–
Luxury Sedan	03	–	–
Limousine	04	–	–

Multipurpose Passenger Vehicle

20	Unknown Multipurpose
14	Utility (Jeep, Bronco)
15	Carryall
16	Pickup–Camper
23	Motor Home

Bus

40	Unknown Bus Type
41	School Bus
42	Intercity (between)
43	Intracity (within)

Motorcycles

50	Unknown Motorcycle Type
51	0-50cc
52	51-125cc
53	126-250cc
54	251-500cc
55	501-750cc
56	751+cc

Special-Purpose Vehicles

60	Unknown special
61	Snowmobile
62	ATV
63	Amphibious Vehicle
64	Farm Vehicles
65	Construction Vehicles
66	Trailer–Private (camper)
67	Trailer–Commercial (cargo)
90	Train
00	Unknown Vehicle Type

Truck

30	Unknown Truck Type
11	Van
12	Pickup
13	Trucks to [illegible] ton (Case vehicle only)
16	Pickup–Camper
33	Van Walk-in
34	Straight truck
35	Truck–Tractor
36	Chassis–Cab
37	Chassis Indeterminant
38	Combination Truck (Semi)

*Car Sizes: Subcompact–wheelbases about 240 to 256 cm.
Compact–wheelbases about 258 to 282 cm.
Intermediate–wheelbases about 284 to 300 cm.
Full Size–wheelbases about 302 cm and greater.

TABLE 3. CODES FOR U.S. AND CANADIAN 1969-1972 VEHICLE MAKES AND MODELS

General Motors	
	Buick
11101	Special, Skylark, GS, Sportwagon
11102	LeSabre, Wildcat, Centurion, Estate Wagon
11103	Electra
11105	Riviera
	Cadillac
11203	Calais, DeVille, Sixty Special, Brougham
112[illegible]	Seventy Five
11[illegible]	Eldorado
	Chevrolet
11318	Vega
11308	Chevy II Nova
11306	Camaro
11307	Monte Carlo (1971-1972)
11309	Corvair
11301	Chevelle, Monte Carlo (1970), El Camino, Concours
11302	Biscayne, Bel Air, Impala, Caprice
11302	Brookwood, Townsman, Kingswood
11310	Corvette
11311	Chevy Van, Sport Van
11312	Pickup (1/2- and 3/4-ton trucks)
11314	Blazer
11315	Carryall
11316	Pickup With Camper
11313	Other Trucks (Up to 1-1/2 ton)
	Oldsmobile
11401	F-85, Cutlass, Vista-Cruiser
11402	Delmont, Delta, Royale, Custom Cruiser
11403	Ninety-eight
11405	Toronado
	Pontiac
11506	Firebird
11501	Tempest, LeMans, GTO, Safari
11502	Catalina, Executive, Bonneville, Ventura, Grandville
11507	Grand Prix
11508	Ventura II
	GMC Truck and Coach
11601	Sprint
11611	Sport Van
11612	Pickup (1/2- and 3/4-ton trucks)
11613	Other Trucks (Up to 1-1/2 ton)
11614	Jimmy
11616	Pickup With Camper
	GM of Canada
21301	Chevelle (A-Body) (Acadian)
21302	Chevrolet (B-Body)
21401	Oldsmobile (A-Body)
21501	Beaumont (A-Body)
21502	Pontiac (B-Body) (Lauretian, Parisienne)
	Other Foreign GM Cars
31708	Holden (Australia)
61808	Opel Kadette (Germany)
61818	Opel (1900) (Germany)
61810	Opel GT (Germany)
41908	Vauxhall (England)

Ford Motor Co.	
	Ford
12118	Pinto
12108	Falcon, Maverick
12106	Mustang
12101	Fairlane, Torino, Cobra, Ranchero
12102	Custom, Galaxie, XL, LTD, Country Sedan
12105	Thunderbird
12114	Bronco
12111	Ford Van
12112	Pickup (1/2- and 3/4-ton trucks)
12116	Pickup With Camper
12113	Other Trucks (Up to 1-1/2 ton)
	Lincoln-Mercury
12206	Cougar
12201	Comet (1969-1970), Montego, Cyclone
12208	Comet (1971)
12202	Monterey, Marauder, Marquis
12203	Lincoln Continental
12205	Lincoln Mark III
622	Capri
	Chrysler Corporation
	Chrysler
13102	Newport, 300, New Yorker, Town and Country
	Dodge
13208	Dart, GTS, Swinger, Custom, Demon
13201	Coronet, Super Bee, Charger
13202	Polara, Monaco
13206	Challenger
13212	Pickup (1/2- and 3/4-ton trucks)
13213	Other Trucks (Up to 1-1/2 ton)
	Imperial
13303	LeBaron, Crown
	Plymouth
13406	Barracuda
13408	Valiant 100, Signet, Duster
13401	Satellite, Belvedere, Road Runner, GTX
13402	Fury, Suburban, VIP, Brougham
	American Motors Corporation
14118	Gremlin
14108	Rambler, Hornet, Sportabout
14101	Rebel, Matador
14110	AMX (1969-1970)
14106	Javelin, AMX (1971)
14102	Ambassador
	Other USA Corporations or Companies
15102	Checker
	Jeep
15201	Wagoneer
15208	Other Jeep (1969-1970)
15214	Other Jeep (1971)
15302	International (Passenger Vehicles Only)
15	Other USA

TABLE 4. CODES FOR EUROPEAN AND JAPANESE CARS

Australia	
31708	Holden

England	
41908	Vauxhall
42209	Ford Anglia, Cortina
42401	Ford Zephyr
45108	Austin Maxi, A60, 1800
45109	Austin Mini, Mini Cooper, America, 1300
45219	Austin Healy Sprite, 3000
45319	MGA, MGB, MGC, MG, Midget, MGT/GT, MGC/GT
45409	Morris Mini
45503	Jaguar 420, XJ6
45510	Jaguar E type (XKE)
45608	Triumph 2000
45609	Triumph Herald
45619	Triumph Spitfire, GT6, TR3, TR4, TR250, TR6, GT6+, Stag
46109	Hillman Imp
46209	Singer
46319	Sunbeam Alpine, Tiger, Rapier
48110	Aston Martin DB5, DB6, DBS
48219	Lotus Elan, Elite, +2s, Super 7, Europa
48319	Morgan
48403	Rolls Royce (shadow)
48404	Rolls Royce (limo)
48610	Jensen

France	
53109	Simca 1204, GLS
55101	Citroen 21, ID20, DS21
55108	Citroen GS
55109	Citroen 2CV, Dyane, Ami
55110	Citroen SM
56108	Renault 16
56109	Renault 8, 10
57108	Peugot 504
57109	Peugot 204, 304, 404, 403

Germany	
61809	Opel Kadette, 1900, Ralye
61819	Opel GT
62209	Ford Capri
65101	Mercedes Benz 200, 190, 220, 230, 250, 280, 300, except SL
65104	Mercedes 600 limo
65110	Mercedes Benz 280 SL, 250SL, 300SL, 190SL

Germany (Cont'd)	
66108	VW411
66109	VW1300, 1500, 1600, "beetle"
66210	Porsche 911, 914-6
66219	Porsche 912, 914
67108	BMW2500/2800 sedans
67109	BMW 1600, 2002, 1800
67110	BMW 2800cs, 2800 ca
68108	Audi 100LS, Super 90
68119	Audi 100 Coupe
68309	NSU 1000, 1200
68301	NSU Ro80

Italy	
75108	Alfa Romeo 1750 Berlina, Guila
75110	Alfa Romeo Montreal
75119	Alfa Romeo 1750 and 1600 GTV, Spyder
76109	Fiat 500, 650, 850, 124 sedans
76110	Fiat Dino
76119	Fiat 850, 124, coupe and spyder, 1500 spyder
77110	Ferrari
78110	Maserati
78208	Lancia Berlina 4 door
78219	Lancia 2 door
78310	De Tomaso Mangusta, Pantera
78410	Lamborghini

Japan	
83209	Dodge Colt
83409	Plymouth Cricket
85109	Mazda (except cosmo)
85110	Mazda Cosmo
86109	Datsun 1000, Sunny, 1200, PL510
86119	Datsun 1600, 2000, 24oz
87108	Toyota Corona, Crown
87109	Toyota Corolla, Sprinter
87110	Toyota 2000GT
88309	Suzuki
88109	Honda
88209	Subaru
81312	LUV-Lite Utility Vehicle (GM-Japan)

Other	
95208	Volvo 122, 142, 144, 145, 164, 522
95219	Volvo P1800
95108	Saab 95, 96, 99
95115	Saab Sonnett
96109	DAF

Body Style: The body style describes the specific type of vehicle involved in the accident. Any type of upper "B" pillar, however thin, is entered as a coupe or sedan, whereas a hardtop has no physical upper "B" pillar whatever. A stationwagon is a special vehicle equipped with an extended occupant compartment and (optional) folddown rear seats to allow the vehicle to also be used for cargo transport. In the two-seat configuration, a full-sized stationwagon will normally carry six persons; in the three-seat configuration, it will carry eight or nine persons. Compact and subcompact stationwagons carry relatively fewer occupants. Hard shell or removable hardtops are entered as convertibles; therefore, a roadster, defined as a two-passenger car with a removable roof, would be classified as a convertible. Cars with sunroofs (any top that has a pillared structure, side rail in portion of the roof which can provide an opening into the passenger compartment) are classified as sedans. Cars with soft or removable hard shell tops and a roll bar are considered as convertibles with upper "B" pillars.

A motorcycle is a motor vehicle having a seat or saddle for the use of the driver and designed to travel with no more than three wheels in contact with the ground.

Trucks are manufactured in a large number of types and varieties; however, they can be classified into three categories, i.e., light-, medium-, and heavy-duty. A light-duty truck normally has a cargo-carrying capacity of 1 ton (910 kg) or less. The cargo capacity of a medium-duty truck is normally up to 2.5 tons (2270 kg), and they are usually six-wheel vehicles with dual wheels on the rear axle. A heavy-duty truck is one with a cargo capacity greater than 2.5 tons, and it may or may not have tandem rear axles.

A truck tractor is intended to tow a trailer without significant cargo on the truck itself. However, a truck tractor, when equipped with a fifth wheel, will normally tow a semitrailer and therefore will support the front of the semitrailer and carry a substantial part of the cargo.

Mass transporters include trolleys and buses. The four different types of buses are as follows:

(1) Intracity Bus–A city or suburban bus that has no provision for luggage exterior to passenger compartment;

(2) School Bus–A bus used primarily to transport school children;

(3) Intercity Bus–A bus with provisions for luggage exterior and interior to occupant compartment;

(4) A Double-Decker Bus–This bus has two distinct areas for occupants (as compared to split-level bus which would be considered an intercity or suburban bus).

A rail-mounted trolley is limited to fore and aft movement while the electric trolley does have lateral movement, however limited.

A recreational vehicle is a vehicular-type unit primarily designed as temporary living quarters for recreation, camping, or travel lodge use which has its own motive power. The four basic categories are as follows:

(1) Chassis-Mounted Truck Camper–Permanently fixed to a truck chassis with bolts and/or welded connections. Most chassis-mounted campers feature a passageway from the truck cabs to the camper living area.

(2) Slide-in Truck Camper–Designed to be carried in the back of a pickup truck; it can be removed when not in use.

(3) Pickup Cover–Portable units designed to provide an all-weather protective enclosure over the bed of pickup trucks. Exterior appearance resembles a slide-in camper without the overcab section. They are also referred to as cabs or shells.

(4) Motor Homes–Produced in three variations: conventional, van conversion, and chopped van. Conventional-type motor homes are constructed directly on a heavy-duty truck chassis. The conventional units are usually larger than the other two types of motor homes. Van conversion motor homes are van-type trucks with interior cargo space converted into a living area by a recreational vehicle manufacturer.

Windows are added, and some models include rear and top extensions to provide more interior room. Chopped van motor homes are built directly onto the aft-frame section of van-type trucks. The front section of the van is retained to provide the driving compartment. The camper section is built on a van chassis and permanently attached to a front section. The motor homes are self-powered units designed to provide complete living facilities.

A multipurpose passenger vehicle is defined as a motor vehicle with motive power designed to carry ten or fewer persons, i.e., constructed either on a truck chassis or with special features for occasional off-road operations.

Agricultural, construction, or industrial vehicles are designed for a specific purpose in a particular industry.

A military vehicle is owned and/or operated by the military. If the vehicle is the same as the civilian counterpart with minor differences (two-way radio communications, special marking, etc.), then use the most appropriate body style.

A motor vehicle composed of a powered vehicle towing a trailer is called a "combinational vehicle." A combinational vehicle may consist of a car and one or more trailers, a truck and one or more trailers, a truck tractor and one or more trailers or truck tractor and semitrailer with or without additional trailers. A semitrailer is a trailer with one or more axles and which is constructed so that the front end of the trailer and the substantial part of the trailer weight and its load rest upon the towing vehicle. A semitrailer is normally towed by a truck tractor equipped with a special semitrailer hitch (fifth wheel).

Use the "other" category to classify the involved vehicle when it does not meet any of the other body styles criteria. Vehicles designed for a specific purpose or standard vehicles which have major modifications fall in this category. Other vehicle categories may include, but not be limited to, taxi cab, dunebuggy, fire apparatus vehicle, ambulance or hearse, police cruisers, All-Terrain Vehicles (ATV), snowmobile, race car, etc.

Right or Left Hand Drive: Circle the appropriate response.

Vehicle Weight (in kilograms): Specify the weight and the weight category that corresponds to the investigator's vehicle weight estimate, i.e., curb weight, empty weight, etc.

Damage Sketch: Using the appropriate view, sketch the damage sustained by the vehicle. The sketch should clearly and accurately show all damage as it exists on the vehicle. Show the dimensions of the crushed and deformed parts of the vehicle. All dimensions are to be in centimeters. Original dimensions are helpful in determining the VDI extent number. Appropriate line drawings should be developed to correspond to the type of vehicle in which the damage is being depicted.

Primary Vehicle Deformation Index: Enter the Primary Vehicle Deformation Index corresponding to the definition in SAE J224a. Primary Vehicle Deformation is that deformation sustained by the vehicle in the worst impact, not necessarily the first impact. In addition, add the percent deformation sustained by the vehicle. The percent deformation is determined by comparing the measured crush in centimeters to the measured undamaged dimension that would correspond to an incipient rating of 9 on the VDI extent scale.

Secondary Vehicle Deformation Index: Enter the VDI that corresponds to the second worst damage sustained by the vehicles.

Estimated Speed: Estimate the speed of the vehicle at impact in kilometers/hour. If more than one impact occurs, estimate the speed corresponding to the most severe impact. Also estimate the total velocity change undergone by the vehicle during impact. A blank space is provided adjacent to each velocity estimate for the investigator to enter a velocity figure of the estimate accuracy.

Which Roadway Was Vehicle on Before Impact?: From the question "type of roadway" on the Accident Description part of the Field Form, ascertain which roadway this vehicle traveled on. Enter the corresponding number, i.e., No. 1, No. 2, or No. 3 in the space provided.

Vehicle Defects or Hazardous Conditions Reported/Observed: Vehicle defects or hazardous conditions may have a significant effect on the severity of injury or damage sustained in the accident. In examining the damaged vehicle, the investigator will ascertain whether vehicle defects or hazardous conditions existed and may have affected the accident severity. In the event that such conditions are detected and they are known to be relevant, circle the appropriate response.

Doors Opened During Collision: If one or more doors open during collision, circle the appropriate response(s), otherwise circle "none" or "unknown."

Doors Jammed: If one or more doors jammed during collision, circle the appropriate response(s); otherwise circle "none" or "unknown."

Did Fire Occur?: Any minor or major fire which existed on the vehicle, regardless of the source, may be documented by circling the appropriate response.

Location of Cause of Fire: Circle the source(s) which best describe(s) the location of the cause of the fire. In the event that the fire was caused by gasoline spilled from another car, circle the response "other" and explain.

Steering Assembly Damage: Indicate whether or not damage was sustained by the steering column, steering wheel rim, or spokes.

Evidence of Occupant Contact: If there is evidence of occupant contact, e.g., particles of flesh, hair, toothmarks, clothing, etc., circle "yes." Otherwise select one of the other appropriate responses.

Energy-Absorbing Unit Collapse: Indicate whether or not there was energy-absorbing unit collapse. An actual measurement is not required.

"A" Pillars (Front) Damage: Record whether or not damage was sustained by the front "A" pillars.

Padded: Were the "A" pillars padded?

Evidence of Occupant Contact: Same as above.

Header Damage: Did the front headers sustain damage?

Padded or Safety Structure: Was the header padded or of the skid-type safety structure?

Evidence of Occupant Contact: Same as above.

Instrument Panel Damage: Was the instrument panel damaged?

Padded or Safety Structure: Was the instrument panel padded or constructed of a deformable, energy-absorbing safety structure?

Evidence of Occupant Contact: Same as above.

Right Interior Side Damage: Ascertain whether or not damage occurred on the inside door area (not including the sheet metal on the outside). The damage may have been caused from direct impact from another vehicle, induced damage, or occupant contact.

Evidence of Occupant Contact: Same as above.

Left Interior Side Damage: Same as Right Interior Side Damage.

Evidence of Occupant Contact: Same as above.

Windscreen Type: Circle the appropriate type of windscreen. Most windscreens installed in European vehicles are of the tempered type; automobiles manufactured in the U.S. after 1967 generally have 30-mil. thickness laminated windscreens.

Windscreen Cracked: A "yes" response will be entered if cracks are observed in the windscreen. A broken windscreen is also a cracked windscreen.

Windscreen Broken: A tempered or plate glass windscreen is considered broken if any part of the windscreen is missing so that a hole may be detected. A "safety glass" windscreen with a plastic innerliner is considered broken if the plastic innerliner is torn.

Windscreen Popped Out: Answer "yes" if the windscreen pops out of the retaining gasket. For those vehicles not equipped with pop-out or unbonded-type windscreens, the appropriate response is "not applicable."

Evidence of Occupant Contact: Same as above.

Right, Left, and Backlight Glass Damage: Breakage of any side or back glass that might have occurred as a result of some event during the accident, and not postcrash, e.g., during rescue operations.

Evidence of Occupant Contact: Same as above.

Other Interior Components Damage: Respond appropriately if other areas of occupant contact were detected. Specify the other areas in which occupant contact was thought to have occurred.

Other Compartment Intrusion or Reduction in Size: A "yes" response is appropriate only if the interior of the occupant compartment has been penetrated by an external object or is reduced in size. Exterior deformation can exist without interior reduction. Do not confuse damage to the interior caused by occupant contact or loose objects in the interior as necessarily being a reduction in occupant compartment size.

Head Restraints: It is assumed that head restraints may exist only for the seated positions shown in the column headings. Place one X in each vertical column corresponding to the relevant condition listed in the column on the left.

Head Restraint Adjustment: Place one X in each vertical column adjacent to the appropriate response listed in the column on the left. If the seatback contains an integral head restraint, then adjustment is constant and the appropriate response is "not applicable, none, integral."

Front Seat Back Damage: Circle the appropriate response based on the observed damage.

Type and Location of Restraints: The type and location of restraints available to the occupants at each of the seated positions is specified in the responses to this question. A table generally listing most of the types of personal restraint systems available is indicated on the Vehicle Description Form. Select one number for each occupied position. If the occupied positions are not known at the time the vehicle is examined, enter appropriate numbers for each position. If the vehicle contains only one seat, enter the code "98–Not applicable or none" into the blanks with the antecedents "R" and "RR"; if the vehicle has two seats, disregard the codes with the antecedent "RR." If the vehicle has no center seat, as for example vehicles equipped with bucket seats, enter the code "98–Not applicable or none" into the blank(s) with the precedent character "C."

Number of Occupants in This Vehicle: Enter the number of occupants in this vehicle.

Occupant Description

Team No./Case No.: Enter the team number and the case number. One Occupant Description form must be completed for each occupant riding in each vehicle.

Vehicle No. in Which Occupant Was Riding: Enter the vehicle number in which the occupant was riding. This number must be given so that the occupants can be identified with respect to the vehicle in which they were riding.

Occupant No.: Each occupant in a given vehicle will be assigned a unique number, i.e., 1, 2, 3, etc. The driver will always be Occupant No. 1. The numbering sequence will start over with No. 1 for each vehicle in a given accident. There will usually be as many occupants No. 1 as there are vehicles; an exception might be in the case of an accident involving a parked car.

Seat Location: Circle the seat location at which the occupant was sitting. The entry "other" is used if the occupant was riding on the floor of a pickup truck bed, on the floor of the van, etc.

Position On Seat: Enter the specific location of the occupants on the seat.

Age: Specify the age of the occupant in years, to the nearest year. Children in their first year are to be considered age 1.

Weight: Specify the weight of the occupant in kilograms.

Height: Specify the height of the occupant in centimeters.

Sex: Specify the sex of the occupant.

Restraint System Used: Select an appropriate response from the list provided. "Complete system" is selected only if the occupant is using the complete restraint system that is available for that occupant in his seated position; otherwise, select another entry.

Degree of Occupant Ejection: Select the appropriate response from the list provided. This question indicates the amount of the occupant body which was ejected. If an arm protruded through a window during a collision sequence, the event is considered a partial ejection. The entire body must leave the original boundary of the occupant compartment during the impact or collision sequence for complete ejection to be coded.

Area of Ejection: Select an appropriate response from the list provided. This question should show, if possible, which area of the vehicle the investigator believes the occupant or part of the occupant was ejected through.

Overall Severity of Injuries: Select an appropriate response from the list provided using the Abbreviated Injury Scale as the basis for this determination.

Occupant Injury Classification and Injury Schematic: Identify the injuries sustained by the occupants on the injury schematic. Enter the appropriate injury classifications based on the occupant injury classification shown in Figure 1 and Table 5. Enter the appropriate contact codes from the list shown in Table 6.

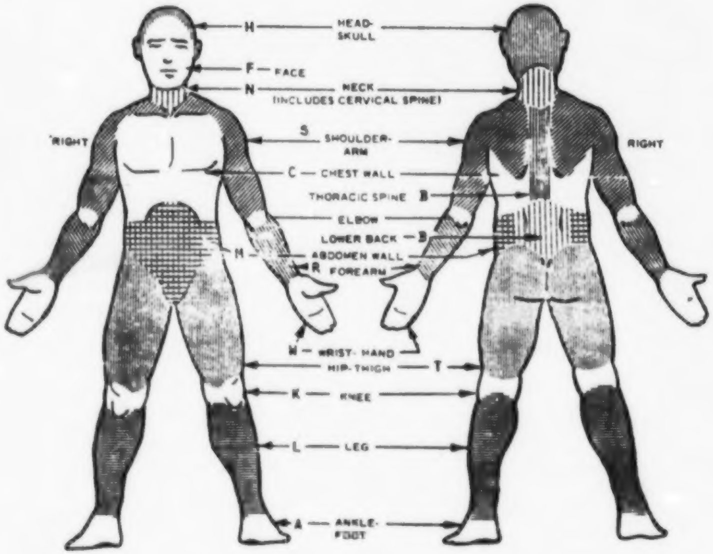

H
HEAD-SKULL
F — FACE
N
NECK (INCLUDES CERVICAL SPINE)
S
SHOULDER-ARM
C — CHEST WALL
THORACIC SPINE B
ELBOW
LOWER BACK — B
M
ABDOMEN WALL
R
FOREARM
W — WRIST- HAND
HIP-THIGH
T
K — KNEE
L — LEG
A — ANKLE-FOOT
RIGHT
RIGHT

FIGURE 1. OCCUPANT INJURY CLASSIFICATION BODY REGIONS

TABLE 5. OCCUPANT INJURY CLASSIFICATION SUMMARY

1 2 3 4 5

Region → 1
Aspect → 2
Lesion → 3
System/Organ → 4
Abbreviated Injury Scale → 5

1 Body Region

H	Head–Skull
F	Face
N	Neck–Cervical Spine
S	Shoulder
E	Elbow
R	Forearm
W	Wrist–Hand
C	Chest
M	Abdomen
B	Back–Thoracolumbar Spine
T	Thigh–Hip
K	Knee
L	Leg
A	Ankle–Foot
O	Whole Body
X	Extremities (Arms–Legs)
Y	Trunk
U	Unknown, Unclassified

2 Aspect

R	Right
L	Left
B	Bilateral
C	Central
A	Anterior/Front
P	Posterior/Back
S	Superior/Upper
I	Inferior/Lower
M	Medial/Midline
W	Whole Region
U	Unknown

3 Lesion

F	Fractures
D	Dislocations
L	Laceration
V	Avulsion
R	Rupture
M	Amputation
C	Contusion
A	Abrasions
K	Concussion
B	Burn
P	Pain
X	Asphyxia
S	Sprains
O	Other
U	Unknown

4 System/Organ

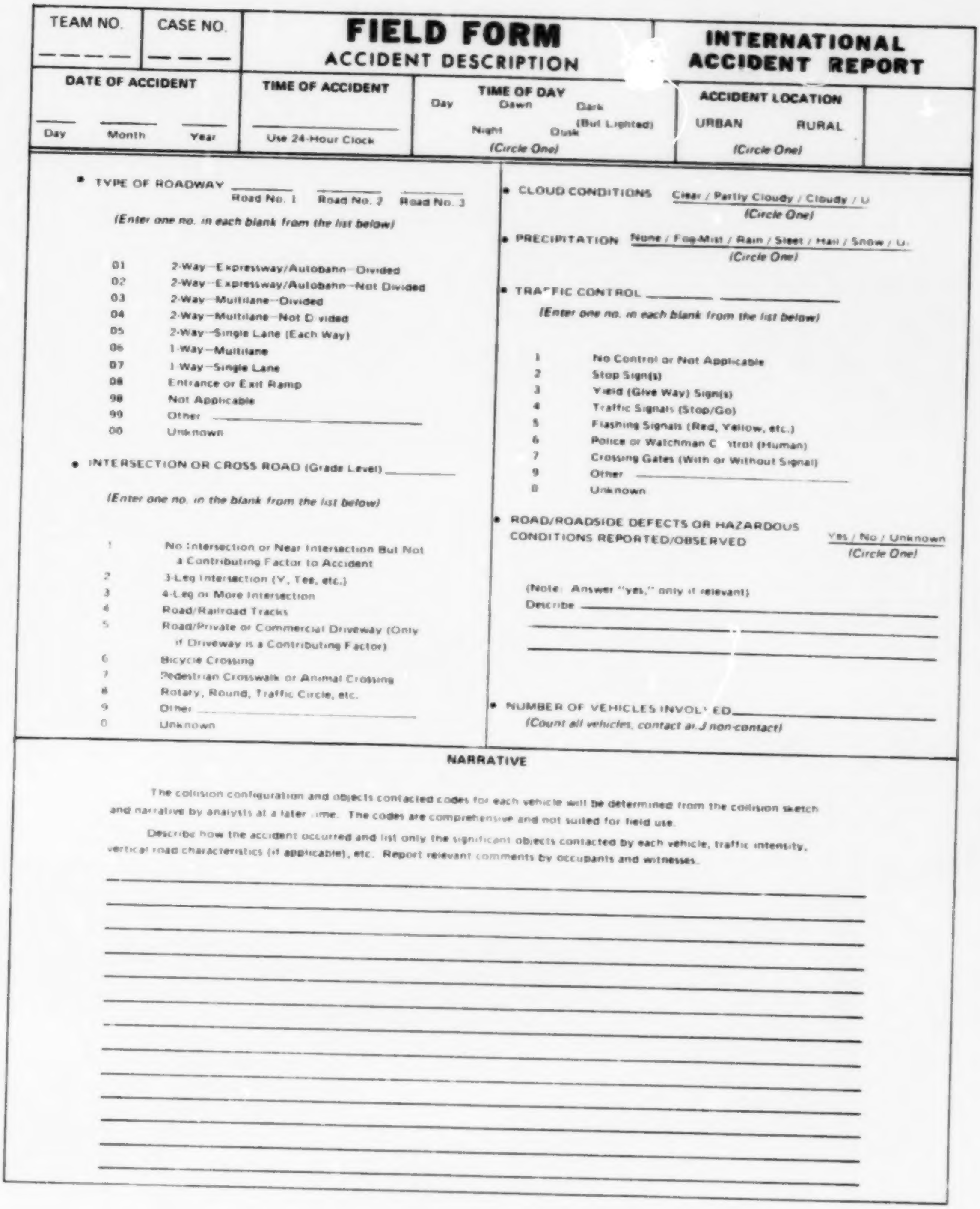
S	Skeletal
V	Vertebrae
J	Joints
D	Digestive
L	Liver
N	Nervous System
B	Brain
C	Spinal Cord
E	Eyes, Ears
☐	Cardiovascular
H	Heart
Q	Spleen
U	Urogenital
K	Kidneys
R	Respiratory
P	Pulmonary, Lungs
M	Muscles
I	Integumentary
U	Unknown, Unclassified

5 Abbreviated Injury Severity

0	No Injury
1	Minor
2	Moderate
3	Serious
4	Severe
5	Critical
6	Fatal
8	Presence Unknown
9	Severity Unknown

TABLE 6. AREAS OF OCCUPANT CONTACT

Front of Passenger Compartment
Instrument Panel
Steering Assembly
Windshield
Glove Compartment Area
Hardware Items (Ashtray, Instruments, Knobs, etc.)
Heater or AC Ducts
Air Conditioning or Ventilation Outlets
Mirrors
Parking Brake
Radio
Sunvisors and Fittings, and/or Top Molding (Header)
Transmission Selector Lever
Parcel Tray
Transmission Selector Lever
Sides
Surface of Side Interiors
Hardware
Armrests
Window Glass
Window Frames
A-Pillar
B-Pillar
C-Pillar
D-Pillar
Courtesy Lights
Interior
Back of Seats
Restraint System Hardware
Restraint System Webbing
Head Restraints
Other Occupants
Interior Loose Object
Rear Seat
Front Seat Cushion
Internal Flying Glass
Roof
Roof Side Rails
Sunvisors and Fittings and/or Top Molding (Header)
Roof or Convertible Top
Coat Hooks
Floor
Transmission Selector Lever
Floor
Foot Controls
Console
Rear
Backlight (Rear Window)
Backlight Header
Exterior to Passenger Compartment
Hood
Objects Exterior to Car
Outside Surface of Car
Other:
(May Indicate More Than One Item)
Unknown



TEAM NO. ____	CASE NO. ___	**FIELD FORM** ACCIDENT DESCRIPTION	**INTERNATIONAL ACCIDENT REPORT**

DATE OF ACCIDENT ___ Day ___ Month ___ Year	**TIME OF ACCIDENT** ___ Use 24-Hour Clock	**TIME OF DAY** Day Dawn Dark (But Lighted) Night Dusk *(Circle One)*	**ACCIDENT LOCATION** URBAN RURAL *(Circle One)*

- TYPE OF ROADWAY ______ ______ ______
  Road No. 1 Road No. 2 Road No. 3

(Enter one no. in each blank from the list below)

01	2-Way—Expressway/Autobahn—Divided
02	2-Way—Expressway/Autobahn—Not Divided
03	2-Way—Multilane—Divided
04	2-Way—Multilane—Not Divided
05	2-Way—Single Lane (Each Way)
06	1-Way—Multilane
07	1-Way—Single Lane
08	Entrance or Exit Ramp
98	Not Applicable
99	Other ______
00	Unknown

- INTERSECTION OR CROSS ROAD (Grade Level) ______

(Enter one no. in the blank from the list below)

1	No Intersection or Near Intersection But Not a Contributing Factor to Accident
2	3-Leg Intersection (Y, Tee, etc.)
3	4-Leg or More Intersection
4	Road/Railroad Tracks
5	Road/Private or Commercial Driveway (Only if Driveway is a Contributing Factor)
6	Bicycle Crossing
7	Pedestrian Crosswalk or Animal Crossing
8	Rotary, Round, Traffic Circle, etc.
9	Other ______
0	Unknown

- CLOUD CONDITIONS Clear / Partly Cloudy / Cloudy / U
  (Circle One)
- PRECIPITATION None / Fog-Mist / Rain / Sleet / Hail / Snow / U
  (Circle One)
- TRAFFIC CONTROL ______ ______

(Enter one no. in each blank from the list below)

1	No Control or Not Applicable
2	Stop Sign(s)
3	Yield (Give Way) Sign(s)
4	Traffic Signals (Stop/Go)
5	Flashing Signals (Red, Yellow, etc.)
6	Police or Watchman Control (Human)
7	Crossing Gates (With or Without Signal)
9	Other ______
8	Unknown

- ROAD/ROADSIDE DEFECTS OR HAZARDOUS CONDITIONS REPORTED/OBSERVED Yes / No / Unknown
  (Circle One)

(Note: Answer "yes," only if relevant)

Describe ______

- NUMBER OF VEHICLES INVOLVED ______
  (Count all vehicles, contact and non-contact)

NARRATIVE

The collision configuration and objects contacted codes for each vehicle will be determined from the collision sketch and narrative by analysts at a later time. The codes are comprehensive and not suited for field use.

Describe how the accident occurred and list only the significant objects contacted by each vehicle, traffic intensity, vertical road characteristics (if applicable), etc. Report relevant comments by occupants and witnesses.

Narrative (Continued)

COLLISION SKETCH

On the sketch, show vehicle(s) path(s), road(s) (indicate no. of lanes, widths, other relevant data if available), location of traffic controls, fixed and moving objects, skid and other marks, sand, gravel, and debris, etc. Show speed limit(s).

TEAM NO.	CASE NO.	**FIELD FORM** VEHICLE DESCRIPTION	**INTERNATIONAL ACCIDENT REPORT**
____	___		

- Vehicle Number (Assign each vehicle in the accident a separate number starting with 1, 2, 3, . . . etc.) ______
- Vehicle Identification Number ______
- Vehicle Make ______
- Vehicle Model ______
- Vehicle Model Year ______
- Vehicle 5-Digit Code ______
  (Country) (Manufacturer) (Division) (Body Type)
- Right- or Left-Hand Drive   Right / Left
  (Circle One)
- Vehicle Weight ______ Kg ______
  (Weight)   (Weight Category)

  (From the list below indicate which weight category is reported)

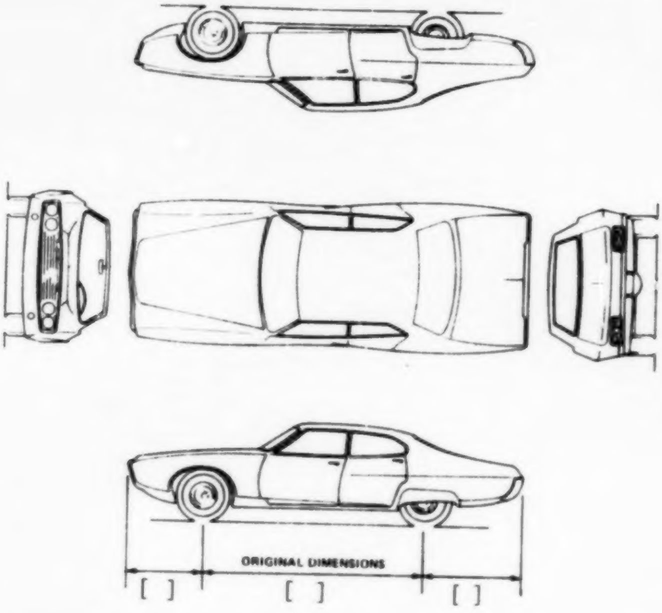
  1 Manufacturers Curb Weight for Basic Vehicle
  2 Empty Weight (Including Options)
  3 Actual Weight (With Passengers, Load, Etc.)
  0 Weight Unknown

- Body Style ______
  (Enter one no. in the blank from the following list)

  (00) Unknown
  (01) 2-Door Hardtop
  (02) 2-Door Sedan/Coupe
  (03) 4-Door Hardtop
  (04) 4-Door Sedan
  (05) Stationwagon
  (06) Convertible (hardtop)
  (07) Convertible (soft-top)
  (08) Van
  (09) Motorcycle (greater than 50cc)
  (10) Motor Scooter, moped and other cycles (50cc or less)
  (11) Bicycle
  (12) Truck—Type (see instruction manual)
  (13) Truck Tractor
  (14) Mass Transporter-type (see instruction manual)
  (15) Recreational Vehicle—Type (see instruction manual)
  (16) Multipurpose Passenger Vehicle
  (17) Agricultural, Construction, or Industrial Vehicle
  (18) Military Vehicle
  (19) Combinational Vehicle
  (20) Train
  (21) Other (see instruction manual)
  (22) Emergency Vehicle
  (98) Not Applicable
  (99) Other ______

- Damage Sketch

Use views shown but develop more appropriate/applicable vehicle line drawings. All dimensions to be in cm. Indicate all damage and show dimensions of crush and deformation.



- Primary Vehicle Deformation Index ____________________
- Secondary Vehicle Deformation Index ____________________
- Estimated Speed (Corresponding to most severe impact)

  At Impact __________ Kph ± ______________ Kph
  Velocity Change ______ Kph ± ______________ Kph

- Which Roadway Was Vehicle on Before Impact ____________________
  (Refer to the "Type of Roadway" and enter No. 1, 2, or 3 in the blank)

- Vehicle Defects or Hazardous Conditions
  Reported / Observed Yes / No / NA / Unknown
  (Circle One)

  (Note: Answer "Yes" only if relevant.)

- Doors Opened During Collision None / RF / LF / RR / LR / Tailgate / Unknown
  (Circle One)

- Doors Jammed None / RF / LF / RR / LR / Tailgate / Unknown
  (Circle One)

- Did Fire Occur Yes / No / Unknown
  (Circle One)

- Location of cause of fire Engine Compartment / Gas Tank / Electrical / Other / Unknown
  (Circle One)

  Explain ________________

• Steering Assembly Damage?	Yes / No / NA / Unk
Evidence of Occupant Contact?	Yes / No / NA / Unk
• Energy-Absorbing Unit Collapse?	Yes / No / NA / Unk
• A-Pillars (Front) Damage?	Yes / No / NA / Unk
Padded?	Yes / No / NA / Unk
Evidence of Occupant Contact?	Yes / No / NA / Unk
• Header Damage?	Yes / No / NA / Unk
Padded or Safety Structure?	Yes / No / NA / Unk
Evidence of Occupant Contact?	Yes / No / NA / Unk
• Instrument Panel Damage?	Yes / No / NA / Unk
Padded on Safety Structure?	Yes / No / NA / Unk
Evidence of Occupant Contact?	Yes / No / NA / Unk
• Right Interior Side Damage?	Yes / No / NA / Unk
Evidence of Occupant Contact?	Yes / No / NA / Unk
• Left Interior Side Damage?	Yes / No / NA / Unk
Evidence of Occupant Contact?	Yes / No / NA / Unk

- Windscreen Type Tempered / 15 Mil / 30 Mil / Other / Unknown
  (Circle One)

• Windscreen Cracked?	Yes / No / NA / Unk
• Windscreen Broken?	Yes / No / NA / Unk
• Windscreen Popped Out?	Yes / No / NA / Unk
Evidence of Occupant Contact?	Yes / No / NA / Unk
• Right Side Glass Damage?	Yes / No / NA / Unk
Evidence of Occupant Contact?	Yes / No / NA / Unk
• Left Side Glass Damage?	Yes / No / NA / Unk
Evidence of Occupant Contact?	Yes / No / NA / Unk
• Backlight Glass Damage?	Yes / No / NA / Unk
Evidence of Occupant Contact?	Yes / No / NA / Unk
• Other Interior Components Damage?	Yes / No / NA / Unk

  Specify: ________________
  ____

- Front Seat back damage Left / Right / Both / Neither
  (Circle One)

- Type and Location of Restraints (Fill in no. from list below)

LRR	LR	LF
CRR	CR	CF
RRR	RR	RF

Front of Vehicle

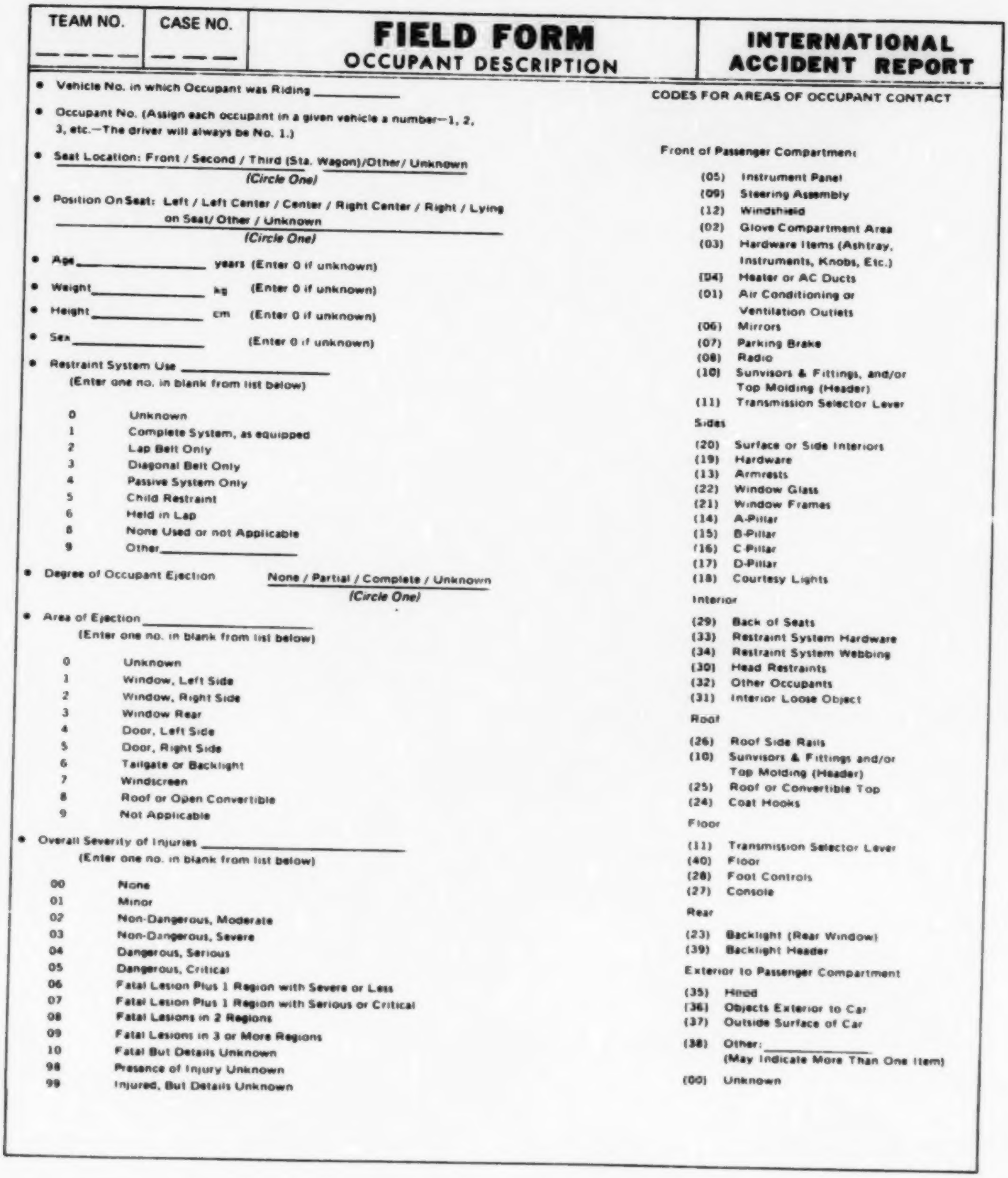
01	Lap Belt Only
02	Diagonal Belt Only
03	3-Point Sliding Loop—Manual (Static)
04	3-Point Sliding Loop—Automatic (Retractor Inertia Reel)
05	3-Point Non-Sliding—Manual (Static)
06	3-Point Non-Sliding—Automatic (Retractor or Inertia Reel)
07	Full Harness of Y-Harness
08	Child Restraint (Type ______ Model No. __________)
09	Air Bag, Only
10	Air Bag and Lap Belt
11	Air Bag, Lap Belt and Shoulder Strap
12	Passive Belt Restraint
98	Not Applicable or None
99	Other ________________
00	Unknown

- Number of Occupants in this Vehicle ______________

- Occupant Compartment Intrusion or Reduction in Size Yes / No / NA / Unk

- Head Restraints (Check Appropriate Box)
- Head Restraint Adjustment (Check Appropriate Box)

	RF	LF	RR	LR
None				
Integral				
Adjustable				
Unknown				
	▨	▨	▨	▨
Not Applicable, None, Integral				
Up				
Down				
Unknown				



TEAM NO. ____	CASE NO. ___	**FIELD FORM** OCCUPANT DESCRIPTION	**INTERNATIONAL ACCIDENT REPORT**

- Vehicle No. in which Occupant was Riding ________
- Occupant No. (Assign each occupant in a given vehicle a number—1, 2, 3, etc.—The driver will always be No. 1.)
- Seat Location: Front / Second / Third (Sta. Wagon)/Other/ Unknown *(Circle One)*
- Position On Seat: Left / Left Center / Center / Right Center / Right / Lying on Seat/ Other / Unknown *(Circle One)*
- Age________ years (Enter 0 if unknown)
- Weight________ kg (Enter 0 if unknown)
- Height________ cm (Enter 0 if unknown)
- Sex________ (Enter 0 if unknown)
- Restraint System Use ________
  (Enter one no. in blank from list below)

0	Unknown
1	Complete System, as equipped
2	Lap Belt Only
3	Diagonal Belt Only
4	Passive System Only
5	Child Restraint
6	Held in Lap
8	None Used or not Applicable
9	Other________

- Degree of Occupant Ejection None / Partial / Complete / Unknown *(Circle One)*
- Area of Ejection ________
  (Enter one no. in blank from list below)

0	Unknown
1	Window, Left Side
2	Window, Right Side
3	Window Rear
4	Door, Left Side
5	Door, Right Side
6	Tailgate or Backlight
7	Windscreen
8	Roof or Open Convertible
9	Not Applicable

- Overall Severity of Injuries ________
  (Enter one no. in blank from list below)

00	None
01	Minor
02	Non-Dangerous, Moderate
03	Non-Dangerous, Severe
04	Dangerous, Serious
05	Dangerous, Critical
06	Fatal Lesion Plus 1 Region with Severe or Less
07	Fatal Lesion Plus 1 Region with Serious or Critical
08	Fatal Lesions in 2 Regions
09	Fatal Lesions in 3 or More Regions
10	Fatal But Details Unknown
98	Presence of Injury Unknown
99	Injured, But Details Unknown

CODES FOR AREAS OF OCCUPANT CONTACT

Front of Passenger Compartment

(05)	Instrument Panel
(09)	Steering Assembly
(12)	Windshield
(02)	Glove Compartment Area
(03)	Hardware Items (Ashtray, Instruments, Knobs, Etc.)
(04)	Heater or AC Ducts
(01)	Air Conditioning or Ventilation Outlets
(06)	Mirrors
(07)	Parking Brake
(08)	Radio
(10)	Sunvisors & Fittings, and/or Top Molding (Header)
(11)	Transmission Selector Lever

Sides

(20)	Surface or Side Interiors
(19)	Hardware
(13)	Armrests
(22)	Window Glass
(21)	Window Frames
(14)	A-Pillar
(15)	B-Pillar
(16)	C-Pillar
(17)	D-Pillar
(18)	Courtesy Lights

Interior

(29)	Back of Seats
(33)	Restraint System Hardware
(34)	Restraint System Webbing
(30)	Head Restraints
(32)	Other Occupants
(31)	Interior Loose Object

Roof

(26)	Roof Side Rails
(10)	Sunvisors & Fittings and/or Top Molding (Header)
(25)	Roof or Convertible Top
(24)	Coat Hooks

Floor

(11)	Transmission Selector Lever
(40)	Floor
(28)	Foot Controls
(27)	Console

Rear

(23)	Backlight (Rear Window)
(39)	Backlight Header

Exterior to Passenger Compartment

(35)	Hood
(36)	Objects Exterior to Car
(37)	Outside Surface of Car
(38)	Other:________ (May Indicate More Than One Item)
(00)	Unknown

- Occupant Injury Classification

Occ. No.	Veh. No.	Region	Aspect	Lesion	System/ Organs	Effects	AIS	Areas of Possible Contact	Occ. No.	Veh. No.	Region	Aspect	Lesion	System/ Organs	Effects	AIS	Areas of Possible Contact	Occ. No.	Veh. No.	Region	Aspect	Lesion	System/ Organs	Effects	AIS	Areas of Possible Contact